



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl. No. 09/891,484
Applicant: Wade Lee
Filed: 06/25/2001
TC/AU: 2859
Examiner: Courson, Tania C.
Docket No. 13.041
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APPELLANT'S BRIEF

Real Party In Interest

The real party in interest is EML Technologies LLC, a California Limited Liability Company, the assignee of the above-captioned application.

Related Appeals And Interferences

There are no related appeals or interferences pending.

Status Of Claims

Claim 1 is canceled. Claims 6, 7 and 10 are withdrawn from consideration. Claims 2-5, 8, 9 and 11-13 are rejected and are subject to this appeal.

Status Of Amendments

No amendments have been filed subsequent to the final rejection.

Summary Of Invention

The invention provides a new improvement in an old worklight, namely, a conspicuous warning indicator that visually indicates to the user *during use* that the worklight surface has become too hot to touch.

The preamble of the two independent claims 9 and 13 calls for a worklight such as pictured in FIG. 1 that has a housing 10 including an interior portion for holding a light source, e.g., the pair of tubular quartz halogen bulbs 21 seen in FIG. 1. The interior portion is formed by interior sidewall 17, bottom wall 18, back wall 19 and the opposing side and top walls. The preamble is directed to those worklights in which the heat

generated by the light source 21 during normal operation causes the exterior surface of the worklight to become hot to human touch. These are typically halogen worklights. (Specification, p. 2, lines 17 – 27)

Independent claim 13 calls for a warning indicator 23 providing an indication that the exterior surface is of a temperature hot to human touch. The warning indicator comprises a thermochromic substance in thermal communication with at least a portion of the exterior surface. The thermochromic substance undergoes a conspicuous color change in response to heat from the surface during normal operation, and the warning indicator is structured and arranged to display an indication, when the thermochromic substance undergoes its conspicuous color change, that the surface is hot to human touch. (See Spec. p. 3, lines 7-14.)

In claims 2 – 5 the thermochromic substance is carried on a substrate 26. In the embodiment of FIG. 2A the thermochromic substance is provided by a normally opaque layer 27 covering non-thermochromic warning indicia 28. In normal operation of the worklight the layer 27 turns clear so that the warning indicia 28 become visible. In the embodiment of FIG. 2B the warning indicia 36 themselves are formed of the thermochromic substance and are carried, together with an opaque background 37, on the substrate 26. In both of these embodiments the substrate 26 also serves to provide a transparent protective covering for the warning indicator.

In claim 8, depending from claim 13, a thermal moderator 29 is disposed between the thermochromic substance (27 or 36) and the exterior surface (indicated at 31 in FIGS. 2A and 2B) so that the thermochromic substance is in thermal communication with the surface through the thermal moderator, which serves to moderate the temperature level applied to the thermochromic substance during normal worklight operation. (See Spec. p. 6, line 22 – p. 7, line 6.)

Independent claim 9 includes a transparent protective covering 26 disposed in a readily visible location at an exterior surface of the worklight, a thermochromic substance 27 or 36 disposed between the transparent protective covering 26 and the exterior surface, and a thermal moderator 29 disposed between the thermochromic substance and the exterior surface. The thermochromic substance is in thermal communication with at least a portion of the exterior surface through the thermal

moderator and is formulated to undergo a conspicuous color change in response to heat from the exterior surface during normal operation of said worklight, the conspicuous color change revealing an indication that the exterior surface is of a temperature hot to human touch. Dependent claim 11 includes warning indicia that are covered by the thermochromic substance, which is normally substantially opaque at room temperature.

In dependent claim 12 the transparent protective covering, thermochromic substance, and thermal moderator are received in a recessed area in the exterior worklight surface.

Issues

1. Whether claims 13, 2-5, 8, 9 and 11 are unpatentable under 35 USC 103(a) over a worklight described in the specification at page 1, lines 5-15, in view of Parker (US Pat No. 3,893,340).
2. Whether claim 12 is unpatentable under 35 USC 103(a) over a worklight described in the specification at page 1, lines 5-15, in view of Parker (US Pat. No. 3,893,340) and further in view of MacDonald (US Pat. No. 3,877,411).

Grouping Of Claims

For purposes of this appeal the claims are divided into the following separately patentable groupings.

Group 1: Claims 13, 2, 8, 9

Group 2: Claims 3, 4, 5, 11

Group 3: Claim 12

ARGUMENT

Factual Background

Halogen worklights are in widespread use and have been for a number of years. They are carried as stock items as well as special promotional items in the nation's largest mass merchandisers and retailers in the professional and do-it-yourself and home-center markets. The following mass merchandisers, home centers and retailers carry halogen worklights on a regular basis in substantially all of their stores: The Home Depot, Sears, Lowes, Menards, Orchard Supply Hardware. In addition, these worklights are carried from time to time by Costco and Sam's Club. They are also carried by Grainger International, which is a major industrial supplier with large catalog sales. Worklights became popular on the shelves of major retailers in the late 1980s and early 1990s and

have remained popular ever since. (Decl. Lee, ¶¶5, 6) Sears and The Home Depot sell them under their own private brands, Craftsman® and Craftsman Professional® at Sears and Commercial Electric® at The Home Depot, as well as under various other third-party vendor names. (Decl. Lee, ¶11)

To get some idea of the volume of sales consider that The Home Depot asserts that it is the world's largest home improvement retailer and the second largest retailer in the United States (based on net sales volume). At the end of the 2001 fiscal year, the company was operating 1,333 stores. (See The Home Depot's Annual Report for the fiscal year ended February 3, 2002 filed with the SEC, attached to Decl. Lee, ¶12) According to Lowe's latest annual report (Annual Report of Lowe's companies, Inc. for fiscal year ended February 1, 2002, attached to Decl. Lee, ¶12), "Lowe's Companies, Inc. ... is the second largest retailer of home improvement products in the world, with a specific emphasis on retail do-it-yourself (DIY) and commercial business customers. ... As of February 1, 2002, Lowe's operated 744 stores in 42 states, with approximately 80.7 million square feet of retail selling space." According to the Sears annual report (Sears, Roebuck and Co. Annual Report for the fiscal year ended December 29, 2001, attached to Decl. Lee, ¶12) the company operates 867 full-line stores as well as other specialty hardware stores under the Sears Hardware and Orchard Supply Hardware names. For the three chains mentioned above, The Home Depot, Lowes and Sears, that amounts to halogen worklights being stocked in 2944 stores (in the US alone) and that does not include the Sears specialty hardware stores and other chains. As a further measure of the number of worklights sold consider that building contractors routinely use worklights in the course of building new houses and remodeling old ones. It is not uncommon for contractors to procure at least one new worklight for each new housing construction project. Thus, the volume of homes being built or remodeled each year gives a rough casual measure for gauging a lower estimate on the number of worklights in use in the construction industry. (Decl. Lee, ¶10)

Halogen worklights get hot. The temperature at the exterior surface of a worklight is regulated by Underwriters Laboratories Inc. (UL), the nationally recognized independent product safety testing and certification organization. The UL standard for the maximum

temperature in the immediate vicinity of the worklight surface is 150 degrees centigrade (302 degrees Fahrenheit). (Decl. Lee, ¶¶8, 9, and UL email communication attached thereto) In discussions about halogen worklights on the Internet users have commented as follows: "Halogen lights put off a lot of heat Really hot." "EXTREMELY hot." "The downsides: Heat, heat, heat. EXTREME caution is needed when moving these things while hot." "Stay away from Heat, heat, heat!!!!!!!!!!!!!!" "Yes, halogens work fine. ... but remember halogens are quite hot and the potential for fire is not negligible...." "Cost for the lamps is significantly higher and they run **HOT HOT HOT.**" "Even with the protective enclosure the case of the work lights becomes quite hot and care should be used if it is mounted where you might touch or brush up against it." (Exhibits D, E, F to Supplemental Response to Office Action of 12/9/02, and Decl. Lee, ¶13) In addition, there have been occasional recalls of worklights due at least in part to the hot temperatures. (Exhibits A, B and C to Response to Office Action of 11/19/02, and Decl. Lee, ¶13)

To guard against the possibility of injury to the user from a worklight surface approaching 302 Fahrenheit degrees, worklight manufacturers have conventionally placed a printed warning label on the worklight surface. A simple warning label reads:

"WARNING – LAMP IS HOT!!!"

including the three exclamation points! Another, more extensive warning label reads:

"HOT SURFACE: Warning – Risk of Fire/Injury to persons, Keep away from combustibles, Unplug to change bulb, Do not touch bulb. Caution – Risk of electric shock, do not use with extension cord near water or where water may accumulate, Keep lamp at least 16 feet (5m) from pools and spas, Keep plugs and receptacles dry, For use only on GFCI protected circuits, Suitable for wet location use."

These warnings are printed on gummed, heat-resistant labels that are adhered to a surface of the worklight. (Decl. Lee, ¶7)

In summary, halogen worklights are sold in very great numbers (major merchandisers all carry them); the hot worklight problem is serious, widespread and on-going (UL continues to test worklight surface temperatures as a requirement for UL certification and major merchandisers continue to require UL certification); and the industry response to the problem has been to put printed gummed labels on the surface with warnings such as "HOT SURFACE!!!"

Applicant does better than that. Applicant applies a warning indicator to the worklight surface that appears when the surface is actually hot and that disappears when the surface cools down. This warning indicator is provided by means of thermochromics such as set out in independent claims 9 and 13.

The Cited References

US Pat. No. 3,893,340 of Parker. This reference is directed to a thermally insulated thermometer that operates by means of thermochromic liquid crystals that change color depending on temperature. The Parker thermometer is depicted in Parker's FIGS. 3 – 5. The overall thermometer is indicated by reference numeral 18 in Parker's FIG. 3. The thermometer includes an insulator 20, a liquid crystal composition 22, and means for displaying a message with the liquid crystal composition when the composition reaches its response temperature, such as masking 24 which hides a portion of the liquid crystal composition from view while permitting the viewing of the remainder, such as numerals 26. Parker's FIG. 4 shows a transparent or translucent substrate 28, message-defining masking 24 on the substrate, and the liquid crystal composition 22 applied to one side of the substrate. Frame 30 retains the substrate on the insulator 20. In the embodiment of Parker's FIG. 5 the liquid crystal composition 22 is applied directly to the face 32 of insulator 20. Masking 24 is applied over the composition 22, and a protective layer such as transparent coating 34 is applied over the masking. (Parker '340, col. 7, line 13 to col. 8, line 2)

US Pat. No. 3,877,411 of MacDonald. This reference is directed to a temperature indicating bolt for use in a journal roller bearing for railroad rolling stock. The bolt is shown in MacDonald's FIG. 1. The head 11 of the bolt has a disc-shaped recess 12, in which is placed a disc of a colored backing element 13 and a smaller disc 14 of a substance that changes color at a given temperature overlying the backing disc 13. A plastic film 15 seals the discs 13 and 14 into the recess 12. (MacDonald, Col. 2, lines 3 – 20) The bolt is used to secure a roller bearing on railroad tracks. When the bearing overheats, the disc 14 changes color. On later inspection it can be determined which bearings have overheated during use. (MacDonald, Col. 2, lines 41 – 50.)

Rejection of Claims 13, 2-5, 8, 9, 11 under 35 USC 103(a) over Worklight in Spec. (p. 1, Lines 5-15) in View of Parker '340

The examiner has failed to show any motivation to combine Parker '340 with the prior art worklight; has failed to show, against applicant's counter evidence, why Parker '340 should even be considered analogous art; and has failed to show that it would take only routine skill in applicant's art to apply the Parker teachings to a worklight as called for in the claims at issue. In short, the examiner has failed to establish a *prima facie* case of obviousness, and even if a *prima facie* case were established, has failed to follow the dictates of *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966), and its progeny in evaluating applicant's evidence of secondary considerations overcoming the assumed *prima facie* case. The examiner has been blinded to the proper application of the law of obviousness by failing to look at the subject matter as a whole, which includes as a necessary element the problem that applicant sought to solve, and by falling victim to hindsight reconstruction using applicant's specification as a guide.

The examiner asserts that Parker shows an insulated thermochromic thermometer meeting the limitations of applicant's claims 13, 2-5, 8, 9 and 11 and that it is obvious to apply the Parker thermometer to a worklight. Assuming here for the sake of argument that the Parker insulated thermometer has a structure similar to or the same as the warning indicator in the claims at issue, the examiner is still obligated to show some reason why the person of ordinary skill in applicant's art would be led to the Parker reference to begin with and why the person of ordinary skill could make the Parker structure function within the worklight environment using only routine skill. It is not enough, as the examiner has done, to assert that Parker shows a thermally insulated warning indicator and then merely to assert further that,

"Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify the worklight with a warning indicator of the Prior Art, so as to include a thermally insulated warning indicator as taught by Parker, so as to further increase the usefulness of liquid crystal/thermochromic thermometers for indicating temperature of relatively high temperature objects as well as to generate a visual message that can be used as a warning device for individuals during use of the device."

(Office Action of 8/1/03, p. 5, lines 3 – 8)

Until applicant's invention thermochromics were virtually unknown in the worklight art. The examiner has not found a single reference that connects worklights with the field

of thermochromics in any way, and applicant is unaware of any such reference and for that reason has not disclosed any such reference in connection with the present patent application. This is so notwithstanding that worklight sales have been widespread, being sold through major mass merchandisers (The Home Depot, Lowes, Sears and others) for many years. The opportunity to apply thermochromics to the hot worklight problem has been present all this time, but there is not one scintilla of evidence that anyone in the worklight art has ever used thermochromics as a matter of routine skill or otherwise in connection with worklights. The complete absence of any reference, use or suggestion of thermochromics by those of ordinary skill in the worklight art is an element of the subject matter as a whole to be taken into account in the adjudication of obviousness.

To emphasize the point, imagine that one of ordinary skill were to undertake an electronic database search for a solution to the hot worklight problem. First, what would motivate such a person to include the word “thermochromics” or “thermochromic” in the search? The answer is, Nothing in the worklight field. Obviousness is judged from the perspective of the hypothetical person of ordinary skill in the inventor’s field and there is nothing to suggest—and the examiner has pointed to nothing—that this hypothetical person has any knowledge of thermochromics. Second, suppose our hypothetical person of ordinary skill were to think of including “thermochromic” as a search term. What would he or she find? The answer is, Nothing. A patent search on the PTO web site and a google search on the web and in discussion groups for worklight or “work light” together with thermochromic results in zero hits even today and *a fortiori* as of the date of applicant’s invention. The Board may take judicial notice of this last fact. *The B.V.D. Licensing Corporation v. Body Action Design, Inc.*, 846 F.2d 727, 728, (Fed. Cir. 1988) (Courts may take judicial notice of facts of universal notoriety, which need not be proved, and of whatever is generally known within their jurisdictions. To that end, dictionaries and encyclopedias may be consulted).

In summary, we may infer that the examiner knows of no connection between thermochromics and worklights since none was cited in making the obviousness case; applicant and those associated with the present patent application know of no such reference since none was disclosed in accordance with the duty of disclosure; and even today conducting a simple database search of the PTO patent database and the internet

would turn up no connection. It is only applicant's specification that makes the connection between the worklights and thermochromics.

The following may have been the examiner's reasoning. The problem addressed is that of providing a warning that worklights have potentially hazardous hot surfaces. Thermochromics have been used in the past to indicate hot surfaces (*à la* Parker '340). So applying thermochromics to a worklight surface would be an obvious thing to do. This logic is wrong because it ignores the question of obvious to whom. It was apparently obvious to the examiner who had the benefit of having read applicant's specification, and it might have even been obvious to Mr. Parker if he were to learn of the hot worklight problem. But well established law (see below) requires that it be obvious to the person of ordinary skill in the inventor's field of endeavor, and that person would not have known anything about thermochromics. The evidence before the Office indicates that thermochromics were simply not used, prior to applicant's invention, in connection with worklights.

The invention of the claims at issue is deceptively simple: in claim 13, a thermochromic warning indicator of suitable structure applied to the hot worklight surface; in the other claims, a thermochromic warning indicator of more detailed structure. It is in precisely such inventions that the temptation to fall back on hindsight reconstruction and to ignore the subject matter as a whole is so powerful. It is in these inventions that the Office has to look especially closely at the guidelines set out in the case law.

It is well established that the obviousness analysis is highly fact specific, is not given to *per se* rules, and is guided by the four factual inquiries of *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). This is set out, for example, in *Litton Systems, Inc. v. Honeywell, Inc.*, 87 F.3d 1559, 39 USPQ2d 1321 (Fed. Cir. 1996):

"To determine whether an invention would have been obvious in light of the prior art requires one to compare the claimed "subject matter as a whole" with the prior art "to which [the] subject matter pertains." *In re Ochiai*, 71 F.3d 1565, 1569, 37 USPQ2d 1127, 1131 (Fed. Cir. 1995). This comparison, however, only provides part of the relevant evidence. One must also examine the relevant historical facts and circumstances related to the claimed invention, such as commercial success, which tend to make it more probable than not that the subject matter of the invention would have been obvious. *Demaco Corp. v. F. Von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1391, 7 USPQ2d 1222, 1226-27

(Fed. Cir.), *cert. denied*, 488 U.S. 956 (1988). As we expressly recognized in *Ochiai*, the obviousness inquiry is highly fact-specific and not susceptible to per se rules. 71 F.3d at 1569.”

“The Supreme Court has underscored the fact intensive nature of the test for obviousness. *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809 (1986). In *Panduit*, the petitioner alleged that this court overrode the trial court's factual determinations with its own factual views. The Supreme Court echoed the petitioner's concerns:”

“While the ultimate question of patent validity is one of law . . . the § 103 condition [that is, nonobviousness] . . . lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.”

“Id. at 811 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)).”

According to *Graham*, *Litton* and numerous other cases, the obviousness inquiry here must take into account such historical background information as the long-standing nature and severity of the hot worklight problem, the worklight industry's historical response to the problem (put on a printed, gummed warning label) as well as the industry's effective acceptance that this is all that can be done to warn the user, the complete absence of any use of thermochromics in worklights, and the historical fact that the *Parker '340* reference, which the Examiner applies as suggesting the use of thermochromics on worklights, has co-existed with the hot worklight problem apparently without ever having actually taught or suggested anything to anyone in the worklight industry. Even if a *prima facie* case of obviousness had been established, these secondary considerations counter that *prima facie* case.

The courts have repeatedly held that the so-called objective considerations of nonobviousness must be considered whenever they are present. The Federal Circuit has even commented that objective considerations, such as failure of others... “may often be the most probative and cogent evidence” of nonobviousness. *Advanced Display Systems, Inc. v. Kent State Univ.*, 212 F.3d 1272, 1285, 54 USPQ2d 1673 (Fed. Cir. 2000), quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir.

1983). The objective considerations are not just secondary evidence to be looked at in close cases. The objective considerations must be considered whenever they are present along with the other *Graham* factors for analyzing nonobviousness. The examiner has improperly disregarded this evidence.

In re Rouffet, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 2000), provides a detailed explanation, of particular pertinence here, of the requirement for an explicit showing of the suggestion to combine references.

“As this court has stated, ‘virtually all [inventions] are combinations of old elements.’ Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983); see also Richdel, Inc. v. Sunspool Corp., 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) (‘Most, if not all, inventions are combinations and mostly of old elements.’). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be ‘an illogical and inappropriate process by which to determine patentability.’ Sensonics, Inc. v. Aerasonic Corp., 81 F.3d 1566, 1570, 38 USPQ2d 1551, 1554 (Fed. Cir. 1996).

“To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

“This court has identified three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In this case, the Board relied upon none of these. Rather, just as it relied on the high level of skill in the art to overcome the differences between the claimed invention and the selected elements in the references, it relied upon the high level of skill in the art to provide the necessary motivation. The Board did not, however, explain what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination. Instead, the Board merely invoked the high level of skill in the field of art. If such a rote invocation could suffice to supply a motivation to combine, the more sophisticated scientific fields would rarely, if ever, experience a patentable technical advance. Instead, in complex scientific fields, the Board could routinely identify the prior art elements in an application, invoke the lofty level

of skill, and rest its case for rejection. *To counter this potential weakness in the obviousness construct, the suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness.* [Emphasis added]

“Because the Board did not explain the specific understanding or principle within the knowledge of a skilled artisan that would motivate one with no knowledge of Rouffet’s invention to make the combination, this court infers that the examiner selected these references with the assistance of hindsight. This court forbids the use of hindsight in the selection of references that comprise the case of obviousness. See *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). Lacking a motivation to combine references, the Board did not show a proper *prima facie* case of obviousness. This court reverses the rejection over the combination of King, Rosen, and Ruddy.”

The *Rouffet* court identifies three possible sources of motivation to combine, and the Examiner has pointed to nothing from these three sources. From the teachings of the prior art the examiner merely cites Parker (we assume for the moment that Parker is proper prior art) but points to nothing in particular that suggests a motivation to combine. The examiner has pointed to nothing purporting to be knowledge of persons of ordinary skill in the worklight art that would motivate the combination, and the examiner has identified nothing in particular about the problem to be solved that would suggest the combination.

A particularly instructive discussion of the same need for specific identification of the motivation to combine is quoted in an art with a particularly low level of skill.

In *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999), the court described the invention as

“a large trash bag made of orange plastic and decorated with lines and facial features, allowing the bag, when filled with trash or leaves, to resemble a Halloween-style pumpkin, or jack-o’-lantern. As the inventors [names omitted] note, the invention solves the long-standing problem of unsightly trash bags placed on the curbs of America, and, by fortuitous happenstance, allows users to express their whimsical or festive nature while properly storing garbage, leaves, or other household debris awaiting collection.” *Dembiczak*, at 1615.

The claims included such simple and non-technical elements as “a flexible waterproof plastic trash or leaf bag,” the bag having “an outer surface which is premanufactured orange in color for the user to simulate the general appearance of the outer skin of a pumpkin...,” and “facial indicia including at least two of an eye, a nose and a mouth on the orange color outer surface for forming a face pattern....” Here is how the court described the obviousness analysis:

“Our analysis begins in the test of section 103 quoted above, with the phrase ‘at the time the invention was made.’ For it is this phrase that guards against entry into the ‘tempting but forbidden zone of hindsight,’ [citations omitted], when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. [Citations omitted] Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one ‘to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.’”

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.”

The court goes on to give a long list of citations with quoted excerpts standing for the proposition that specific objective evidence must be identified for the teaching, suggestion or motivation to combine references. The court then concludes:

For example, in this case the Board found that the Holiday bag reference depicts a ‘premanufactured orange’ bag material, finds that Shapiro teaches the use of paper bags in various sizes, including ‘large,’ and concludes that the substitution of orange plastic for the crepe paper of Holiday and the paper bags of Shapiro would be an obvious design choice. Yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention. See Rouffet, 149 F.3d at 1357, 47 USPQ2d at 1459 (noting Board’s failure to explain, when analyzing the prior art, “what specific understanding or technical principle . . . would have suggested the combination”). Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to combine the prior art references cited against the pending claims, the Board’s conclusion of obviousness, as a matter of law, cannot stand. (Citations omitted)”

The lesson from these and other cases is that the showing of a motivation to combine must be clear and particular, and it must be supported by actual evidence. Generalized and airy statements extracted from a reference do not meet the clear and particular standard. In the present case the examiner has not indicated any clear and particular motivation in the *Parker* reference or anywhere else. The historical background of applicant’s invention described above strongly indicates that those skilled in applicant’s

art at the time the invention was made would find no motivation in *Parker*, or any other references to apply thermochromics as applicant has done to the hot worklight problem.

Even if there were some suggestion relating thermochromics to the hot worklight problem (and all available evidence shows there is not), at best the references of record relating to thermochromics would fairly be viewed only as suggesting that it would be obvious to try to apply a thermochromic solution to the problem. It is well established that “obvious to try” is not the standard of obviousness under Section 103.

An early and often-cited case discussing the “obvious to try” standard is *In re Tomlinson, Hall and Geigle*, 150 USPQ 623 (CCPA 1966). The invention in that case was a form of stabilized polypropylene. The PTO asserted the invention was obvious in view of the well known stabilized polyethylene art and the close relation of polypropylene to polyethylene. In finding the invention non-obvious, the court explained:

“As we see it, appellant’s invention is the *discovery* of what stabilizers for other materials, known in the art, *will*, and which *will not*, stabilize *polypropylene* against degradation by *light*. ... [The examiner had stated] ‘it would be obvious for a skilled chemist to try to stabilize polypropylene with a known stabilizer for polyethylene,’ and that it would be ‘routine experimentation for a skilled chemist to attempt to stabilize polypropylene against the deteriorative effect of light by first trying the known stabilizers for polyethylene such as ...’” Our reply to this view is simply that it begs the question, which is obviousness under section 103 of *compositions and methods*, not of the direction to be taken in making *efforts* or *attempts*. Slight reflection suggests, we think, that there is usually an element of ‘obviousness to try’ in any research endeavor, that it is not undertaken with complete blindness but rather with some semblance of a chance of success, and that patentability determinations base on that as the test would not only be contrary to statute but result in a marked deterioration of the entire patent system as in incentive to invest in those efforts and attempts which go by the name of ‘research.’”

Later, in *In re O’Farrell*, 7 USPQ2d 1673 (Fed. Cir. 1988), the court further elucidated the impropriety of the “obvious to try” standard of obviousness:

“The admonition that ‘obvious to try’ is not the standard under sec. 103 has been directed mainly at two kinds of error. In some cases, what would have been ‘obvious to try’ would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful. [Citations omitted] In others, what was ‘obvious to try’ was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the

prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it. [Citations omitted]"

In the present case it is the second kind of error that is committed by rejecting applicant's claims on the *Parker* reference or on any other generalized thermochromic reference that does not somehow address the hot worklight problem with specificity. Applicant's venture into thermochromics explored a new technology to the worklight industry—a general approach that seemed to applicant, but to no one else in the worklight industry, to be a promising field of experimentation, where the asserted thermochromics prior art gave at best only general guidance as to applicant's invention or how to achieve it.

Before applicant's invention the application of a thermochromic indicator to a worklight was not routine. Even if it is assumed that Parker is legally cognizable prior art for purposes of the obviousness analysis, there are a number of tradeoffs and problems raised by worklights not addressed by Parker either at all or in sufficient specificity to enable one of ordinary skill in the worklight art to make the invention. These are indicated in applicant's specification (p. 5, line 17 to p. 6, line 4) and include the following. The color change may not necessarily occur uniformly over an extended thermochromic area. The thermochromic substance can take on a blotchy or mottled appearance as the worklight surface approaches its operating temperature, which may result from uneven heating of the underlying surface, uneven heat transfer to the thermochromic substance, excessive temperature, or the formulation of the thermochromic substance itself. Such uneven color change may present an undesirable commercial impression of lesser product quality and would tend to deter anyone but an inventor from continuing. Another factor is the stability of the thermochromic substance above its activation temperature. For some thermochromic formulations the desired color change occurs only within a limited range above the activation temperature. If the temperature continues to rise to a level sufficiently far above the activation temperature, then the color may fade or otherwise become less conspicuous, and in some instances with repeated exposure to excessive temperatures the ability to undergo a color change may be lost altogether. Yet other factors are the selection of colors available and the cost of the thermochromic substances, as some formulations are more costly than others. These must all be weighed in the selection of any particular thermochromic substance

and the arrangement by which thermal communication is established between the thermochromic substance and the underlying external worklight surface. With no examples to follow in the worklight art, the routine practitioner, even if it were obvious to try thermochromic indicators, would have no reason to know, using only routine skill, that a practical solution could be found. The practitioner could only try to do it and see if it could be made to work. But that is the kind of investigation that is not routine and that the patent laws are intended to encourage and that the "obvious to try" standard, improperly applied here by the examiner, discourages.

Closely allied with the motivation issue is the issue of analogous art. Applicant contends that Parker does not constitute analogous art. The test is well known: the reference must either be in the field of applicant's endeavor, or if not, then be reasonably pertinent to the particular problem with which the invention was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). The examiner asserts that Parker is reasonably pertinent to the particular problem addressed by applicant, but makes no specific showing as to what the pertinence is, or even a statement of what the examiner considers the particular problem to be. (That the reference is outside the field of applicant's endeavor does not appear to be in issue.) The law is clear that to find analogous art, the reference must be *reasonably* pertinent to the *particular* problem, as viewed by the person of ordinary skill in applicant's field, not in the field of the asserted analogous reference.

According to the specification (p. 1, lines 8 – 10) the particular problem is that "...quartz halogen bulbs...have a comparatively high operating temperature, and consequently the exterior surfaces of the worklights tend to get hot." The prior art addressed the hot surface problem in two ways: either apply a printed warning label or just assume the user would recognize that the surface was hot. (Spec. p. 1, lines 10 – 15) Reasons have been set forth above why the artisan in the worklight field would not look to the thermochromics field to solve a problem of hot surfaces in the working environment of halogen worklights. Briefly, thermochromics was a technology never utilized and effectively unknown to the routine practitioner in the worklight field.

The example of *Ex parte Dussaud*, 7 USPQ2d 1818, 1819 (BPAI 1988), is instructive here. The asserted reference related to carpet manufacturing; the invention related to manufacturing of disposable diapers.

"Initially, we consider the question whether the Penman reference is from a nonanalogous art. First, we find it clear that this reference is not within the field of appellants' endeavor. On the contrary, Penman relates to the art of carpet manufacture whereas appellants' field of endeavor is the art of manufacturing disposable diapers. Indeed, each of the patents issued to Klasek, Buell, Teed, and Bourgeois relates to the art of making diapers, as does appellants' specification disclosure. Penman, which stands apart, relates to the art of making carpets.

Second, it is our judgment that Penman is not reasonably pertinent to the *particular* problem with which appellants were involved, i.e., the application of an elastic strip to a web in a curvilinear pattern. In determining this latter point, we have evaluated and weighed the Courtray declaration filed under Rule 132 wherein declarant sets forth reasons why the artisan "would not look to the carpet manufacturing process and equipment field to solve a problem in the application of elastic to a web in a curvilinear pattern". See Paper No. 15, page 1. We note that the examiner entered and considered the declaration (see Paper Nos. 18 and 22) but found same "not persuasive" because, according to the examiner, declarant merely offers his opinion on the art of carpet making. The examiner discounted that opinion because declarant is not established as an expert in that art. We disagree with the examiner's analysis. The examiner does not deny that declarant is skilled in the art of manufacturing diapers, although declarant does not claim to have the same level of skill in the art of making carpets. In this regard, we note that persons having ordinary skill "could not possibly be aware of every teaching in every art". See *In re Wood*, 559 F.2d 1032, 202 USPQ 171, 174 (CCPA 1979). Certainly, declarant expresses skepticism whether a person having ordinary skill in the art of manufacturing *disposable diapers* would consider the carpet manufacturing process and equipment filed (*sic*) as reasonably pertinent to the particular problem with which the appellants were involved. As stated in *In re Dow Chemical Company*, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988), skepticism expressed by an expert in the art is entitled to fair evidentiary weight.

We also find that the examiner's characterization of the problem in Paper No. 22, *i.e.*, "the laminating of continuous running sheets utilizing a hot melt adhesive", is broader than the particular problem with which appellants were involved. Precise definition of the problem is important in determining whether a reference is from a nonanalogous art. Defining the problem too narrowly may result in excluding consideration of relevant prior art. By the same token, defining the problem too broadly, as done here, may result in considering prior art as "analogous" which is inconsistent with real world considerations. See *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 USPQ 337 (Fed. Cir.

1985), vacated, 475 U.S. 809, 229 USPQ 478 (1986), aff'd on remand, 810 F.2d 1561, 1 USPQ2d 1593 (Fed. Cir. 1987).

Having applied the two-fold test for determining whether a reference is from a nonanalogous art, see *In re Wood*, *supra*, we hold that on the facts of this case the Penman reference constitutes nonanalogous art. It is therefore not available as a reference in evaluating the obviousness of appellants' claimed invention under 35 USC 103."

Like *Dussaud*, applicant has pointed out evidence that one of ordinary skill in the worklight field would not look to thermochromics and hence to Parker for a solution to the problem of warning the user about hot worklight surfaces. Also like *Dussaud*, the examiner has improperly disregarded this evidence.

In re Oetiker, *supra*, is also instructive here because it involves a simple mechanical improvement to a hose clamp, namely, a pre-assembly hook, that can be seen as analogous here.

Oetiker's invention is an improvement in a "stepless, earless" metal clamp, a hose clamp that was generally described in an earlier '004 patent of Oetiker, but that differs in the presence of a feature that is described as a preassembly "hook". This "hook" serves both to maintain the preassembly condition of the clamp and to be disengaged automatically when the clamp is tightened. The cited references were Oetiker's earlier-granted '004 patent, combined with a certain Lauro '400 patent. Lauro describes a plastic hook and eye fastener for use in garments, in which "unitary tabs of sewing needle puncturable plastic material . . . are affixable to clothing and the like by sewing". Oetiker argues that there is no suggestion or motivation to the artisan to combine the teachings of the cited references, and that Lauro is nonanalogous art. Oetiker concludes that these references were improperly combined; that a person of ordinary skill, seeking to solve the problem facing Oetiker, would not look to the garment art for the solution. Oetiker also argues that even if combined the references do not render the claimed combination obvious.

The examiner stated that "since garments commonly use hooks for securement", a person faced with the problem of unreliable maintenance of the pre-assembly configuration of an assembly line metal hose clamp would look to the garment industry art. The examiner explained further by stating that "Appellant's device as disclosed could be utilized as part of a garment". The Board did not repeat or support the examiner's argument, or discuss its relevance. Indeed, the argument is not supportable. However, the Board held that the Lauro reference, although not "within the appellant's specific field of endeavor" is nonetheless "analogous art" because it relates to a hooking problem, as does Oetiker's invention.

The Board apparently reasoned that all hooking problems are analogous. At least, that is the argument now pressed by the Commissioner. The

Commissioner states in his brief on appeal that "A disengageable catch, such as that used by Oetiker, is a common everyday mechanical concept that is variously employed in door latches and electrical and other switches, as well as in the hook and eye apparatus disclosed by Lauro". No such references were cited, however. While this court may take judicial notice of common everyday mechanical concepts in appropriate circumstances, the Commissioner did not explain why a "catch" of unstated structure in an electrical switch, for example, is such a concept and would have made Oetiker's invention obvious. Indeed, the Commissioner did not respond to Oetiker's argument that the cited references provide no teaching or suggestion that Lauro's molded hook and eye fastener, even if combined with Oetiker's '004 clamp, would achieve Oetiker's purpose. In order to rely on a reference as a basis for rejection of the applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. See *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986). Patent examination is necessarily conducted by hindsight, with complete knowledge of the applicant's invention, and the courts have recognized the subjective aspects of determining whether an inventor would reasonably be motivated to go to the field in which the examiner found the reference, in order to solve the problem confronting the inventor. We have reminded ourselves and the PTO that it is necessary to consider 'the reality of the circumstances', *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979) -- in other words, common sense -- in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.

It has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments. The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself. *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678-79, 7 USPQ2d 1315, 1318 (Fed. Cir. 1988); *In re Geiger*, 815 F.2d 686, 687, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1147, 227 USPQ 543, 551 (Fed. Cir. 1985).

Oetiker's invention is simple. Simplicity is not inimical to patentability. See *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U.S. 275, 279, 60 USPQ 386, 388 (1944) (simplicity of itself does not negative invention); *Panduit Corp. v. Dennison Mfg Co.*, 810 F.2d 1561, 1572, 1 USPQ2d 1593, 1600 (Fed. Cir.) (the patent system is not foreclosed to those who make simple inventions), cert. denied, 481 U.S. 1052 (1987).

We conclude that the references on which the Board relied were improperly combined."

Like *Oetiker*'s invention, applicant's might also appear simple, and like the *Oetiker* Board's conclusion that "all hooking problems are analogous," there is a tendency to conclude here that "all thermochromic temperature measurements are analogous," particularly where the details of the respective problems inherent to the worklight art and to the thermochromic art are glossed over. But the patent system is not foreclosed to those who make simple inventions. When the admonitions against hindsight reconstruction and reading applicant's specification as a guide are heeded, there is nothing in the legally cognizable prior art that is seen to suggest the invention defined by any of applicant's claims on appeal to the routine practitioner in the worklight art.

It has been pointed out above that even if Parker were to be considered as prior art for purposes of obviousness, Parker provides no suggestion to combine his thermally insulated thermometer with a worklight as called for in applicant's claims, and at most Parker suggests a direction that is obvious to try. In fact, Parker teaches very little that would be directly applicable to worklights.

Parker does not relate to worklights, and there is nothing in Parker to suggest that the temperature measurement problems he addresses are analogous to worklight surfaces. In this regard it is interesting to note that the illustrated embodiment in applicant's specification includes a thermal moderator approximately one-sixteenth to one-eighth inch in thickness (Spec. P. 7, lines 7 – 9). Parker gives an example of his thermometer in which the thermal insulator/moderator is also one-eighth inch. However, the Parker one-eight-inch example will not work on halogen worklights. Parker's one-eight-inch example corresponds to the curve A in Parker's FIG. 2. As explained above, the maximum worklight surface temperature permitted by UL is 150° C (302° F). By extending the axes and the curve A of Parker's FIG. 2, it may be seen that a worklight surface temperature of 302°F (Parker's T₁) corresponds to a moderator surface temperature at the thermochromic substance (T₂) of about 200°F (93°C). But this is already greater than the maximum liquid crystal destruct temperature of 90°C given by Parker (Col. 2, line 57 – col. 3, line 7). Applicant's one-sixteenth-inch example would make the temperature at the surface of the moderator even higher and exceed the Parker maximum destruct temperature by even more. Thus, the effective teaching of Parker to the routine practitioner in the worklight art is that the main Parker example will not work

and if the Parker structure can be made to work at all in the worklight environment then some compromises will have to be made. At the most, a fair reading of Parker (and not a superficial reading), taking into account the details taught and what they mean to the routine worklight practitioner, teaches that with some experimentation one might be able to find a Parker-style thermally insulated thermometer that could work in the environment of worklights. In other words, at most the Parker methods are obvious to try on worklights.

The above arguments apply equally to all claims on appeal. In addition, Claims 3, 4, 5, 11 may be further distinguished from Parker. In these claims the thermochromic substance is carried on the substrate so as to cover the warning indicia. The thermochromic substance is normally opaque at room temperature and obscures the warning indicia. In response to heat from the worklight surface the thermochromic substance turns transparent to expose the warning. This arrangement is not shown or suggested in Parker.

Rejection of Claim 12 under 35 USC 103(a) over Worklight in Spec. (p. 1, Lines 5-15) in View of Parker '340 and MacDonald

In claim 12 a thermal moderator with thermochromic substance and a protective transparent covering thereon are set into a recessed area in the worklight surface such that the transparent protective covering is substantially flush with the worklight surface. The examiner has rejected this claim on the same grounds as above with the addition of MacDonald to show the recess.

In addition to the arguments raised above applying generally to all claims, including claim 12, applicant also asserts that MacDonald is non-analogous art. MacDonald in no way relates to applicant's particular worklight problem. It is not reasonable to expect the ordinary practitioner in the worklight art to be aware of the overheated journal roller bearing problem in railroad rolling stock or to expect that problem to be reasonably pertinent to applicant's problem.

CONCLUSION

In closing, the undersigned directs the Board's attention to the Supreme Court's admonition given many years ago in *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 US 428 (1911), that seems most appropriate here:

"Its [the invention's] simplicity should not blind us as to its character.

Many things, and the patent law abounds in illustrations, seem obvious after they have been done, and in the light of the accomplished result it is often a matter of wonder how they so long eluded the search of the discoverer and set at defiance the speculations of inventive genius [citations omitted].

Knowledge after the event is always easy and problems once solved present no difficulties, indeed, may be represented as never having had any.

And expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by merely skillful attention.

But the law has other tests of the invention than subtle conjectures of what might have been seen and yet was not."

Respectfully submitted,

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I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to Commissioner for Patents, Mail Stop Appeal Brief-Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

January 5, 2004 By *Elliot B. Aronson*
Date Elliot B. Aronson
Reg. No. 29,279

Appendix I – Claims On Appeal

2. The apparatus of claim 13, further comprising a substrate wherein said thermochromic substance is carried on said substrate, and said substrate is disposed with respect to said at least one exterior surface so as to place said thermochromic substance in thermal communication with at least a portion thereof.
3. The apparatus of claim 2 further comprising warning indicia carried on said substrate, and wherein said thermochromic substance is carried on said substrate so as to cover said indicia, wherein said thermochromic substance is normally substantially opaque at room temperature so as to substantially obscure said indicia and turns transparent in response to said heat from said at least one exterior surface so as to expose said indicia.
4. The apparatus of claim 3 wherein said substrate is transparent, and said thermochromic substance and said indicia are carried on the underside of said substrate, whereby said substrate provides a protective covering for said thermochromic substance and indicia.
5. The apparatus of claim 4 wherein said thermochromic substance forms a layer on the underside of said substrate, said indicia are applied to the underside of said layer, and said substrate with said thermochromic layer and indicia are adhered in position at said at least one exterior surface with the undersides thereof directed toward said at least one exterior surface.
8. The apparatus of claim 13 further comprising a thermal moderator disposed between said thermochromic substance and said at least one exterior surface, whereby said thermochromic substance is in thermal communication with said at least one exterior surface through said thermal moderator.

9. In a worklight having a housing including an interior portion for holding a light source, said housing presenting at least one exterior surface and said light source operating at a temperature raising said at least one exterior surface to a temperature that is hot to human touch during normal operation of the worklight, the improvement comprising:

a transparent protective covering disposed in a readily visible location at said at least one exterior surface;

a thermochromic substance disposed between said transparent protective covering and said at least one exterior surface; and

a thermal moderator disposed between said thermochromic substance and said at least one exterior surface;

wherein said thermochromic substance is in thermal communication with at least a portion of said at least one exterior surface through said thermal moderator and is formulated to undergo a conspicuous color change in response to heat from said at least one exterior surface during normal operation of said worklight, said conspicuous color change revealing an indication that said at least one exterior surface is of a temperature hot to human touch.

11. The apparatus of claim 9 further comprising warning indicia, wherein said thermochromic substance is disposed so as to cover said indicia, wherein said thermochromic substance is normally substantially opaque at room temperature so as to substantially obscure said indicia and turns transparent in response to said heat from said at least one exterior surface so as to expose said indicia.

12. The apparatus of claim 9 wherein said at least one exterior surface is formed with a recessed area sized to receive said transparent protective covering, said thermochromic substance, and said thermal moderator such that the outer surface of said transparent protective covering is substantially flush with said at least one exterior surface.

13. In a worklight having a housing including an interior portion for holding a light source, said housing presenting at least one exterior surface and said light source operating at a temperature raising said at least one exterior surface to a temperature that is hot to human touch during normal operation of the worklight, the improvement comprising:

a warning indicator providing an indication that said at least one exterior surface is of a temperature hot to human touch, said indicator comprising:
a thermochromic substance in thermal communication with at least a portion of said at least one exterior surface, said thermochromic substance being formulated to undergo a conspicuous color change in response to heat from said at least one exterior surface during normal operation of said worklight, said indicator being structured and arranged to display an indication, when said thermochromic substance undergoes said conspicuous color change, that said at least one exterior surface is of a temperature hot to human touch.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

appl. N. 09/891,484

Confirmation No. 9387

Applicant: Wade Lee

Filed: 06/25/2001

TC/AU: 2859

Examiner: Courson, Tania C.

Docket No. 13.041

Customer No. 9651

Commissioner for Patents
Mail Stop Appeal Brief-Patents
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APPELLANT'S EVIDENTIARY RECORD ON APPEAL

1. Office Action of 8/1/2003
2. US Pat. No. 3,893,340 (Parker)
3. US Pat. No. 3,877,411 (MacDonald)
4. Declaration of Lee and accompanying attachments
 - US Pat. No. D207,967 Decl. ¶6
 - Email re UL Worklight Temp tests per Decl. ¶9
 - Printouts from web per Decl. ¶12
 - Excerpts of annual reports for The Home Depot, Sears, and Lowes per Decl. ¶12
 - Recall notices per Decl. ¶13
 - Printouts of web discussions re hot worklights per Decl. ¶13

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,484	06/25/2001	Wade Lee	13.041	9387

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EXAMINER

COURSON, TANIA C

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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O P E R A T I O N S		Application No.	Applicant(s)
JAN 06 2004		109/891,484	LEE, WADE
U.S. PATENT & TRADEMARK OFFICE		Examiner	Art Unit
		Tania C. Courson	2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 20 May 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-5,8,9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) 6,7 and 10 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2-5,8,9 and 11-13 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 June 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

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DETAILED ACTION

Election/Restrictions

1. The election requirement stated in a previous office action (Paper No. 5) is hereby repeated, and thus maintained **FINAL**.
2. Claims 6-7 and 10 are maintained withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 13, 2-5 and 8 are rejected under 35 U.S.C. 103 (a) as being unpatentable over a worklight described in the specification, specifically page 1, lines 5-15, filed on June 25, 2001 in the Patent Application Serial Number 09/891,484 [hereinafter Prior Art] in view of Parker (US 3,893,340).

The Prior art discloses a worklight and suggests that the exterior surface tends to get hot to human touch and that printed labels have been added to the surface of the worklight as a

Art Unit: 2859

warning indicator, as claimed by the applicant with the exception of the warning indicator being a thermochromic warning indicator.

With respect to an indicator comprising a thermochromic substance in thermal communication with at least a portion of at least one exterior surface, said thermochromic substance being formulated to undergo a conspicuous color change in response to heat from said at least one exterior surface during normal operation, said indicator being structured and arranged to display an indication, when said thermochromic substance undergoes said conspicuous color change, a substrate wherein said thermochromic substance is carried on said substrate, said substrate is disposed with respect to said at least one exterior surface so as to place said thermochromic substance in thermal communication with at least a portion thereof, a warning indicia carried on said substrate, and wherein said thermochromic substance is normally substantially opaque at room temperature so as to substantially obscure said indicia and turns transparent in response to said heat from said at least one exterior surface so as to expose said indicia, wherein said substrate is transparent, and said thermochromic substance and said indicia are carried on the underside of said substrate, whereby said substrate provides a protective covering for said thermochromic substance and indicia, wherein said thermochromic substance forms a layer on the underside of said substrate, said indicia are applied to the underside of said layer, and said substrate with said thermochromic layer and indicia are adhered in position at said at least one exterior surface with the undersides thereof directed toward said at least one exterior surface, and further comprising a thermal moderator disposed between said thermochromic substance and said at least one exterior surface, whereby said thermochromic substance is in

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thermal communication with said at least one exterior surface through said thermal moderator.

Parker teaches a thermally insulated warning indicator that consists of an indicator comprising a thermochromic substance (Fig. 4, liquid crystal composition 22) in thermal communication, with at least a portion of at least one exterior surface (column 5, lines 1-11), said thermochromic substance being formulated to undergo a conspicuous color change in response to heat from said at least one exterior surface during normal operation (column 5, lines 1-11), said indicator being structured and arranged to display an indication when said thermochromic substance undergoes said conspicuous color change (column 5, lines 1-11), a substrate (Fig. 4, translucent 28) wherein said thermochromic substance is carried on said substrate, said substrate is disposed with respect to said at least one exterior surface so as to place said thermochromic substance in thermal communication with at least a portion thereof, a warning indicia (Fig. 4, masking 24) carried on said substrate, and wherein said thermochromic substance is normally substantially opaque at room temperature so as to substantially obscure said indicia and turns transparent in response to said heat from said at least one exterior surface so as to expose said indicia (column 1, lines 20-24), wherein said substrate is transparent, and said thermochromic substance and said indicia are carried on the underside of said substrate, whereby said substrate provides a protective covering for said thermochromic substance and indicia (column 1, lines 20-24), wherein said thermochromic substance forms a layer on the underside of said substrate, said indicia are applied to the underside of said layer, and said substrate with said thermochromic layer and indicia are adhered in position at said at least one exterior surface with the undersides thereof directed toward said at least one exterior surface (Fig. 4), and further comprising a thermal moderator (Fig. 4, insulator 20) disposed between said thermochromic substance and

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said at least one exterior surface, whereby said thermochromic substance is in thermal communication with said at least one exterior surface through said thermal moderator (Fig. 4). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify the worklight with a warning indicator of the Prior Art, so as to include a thermally insulated warning indicator as taught by Parker, so as to further increase the usefulness of liquid crystal/thermochromic thermometers for indicating temperature of relatively high temperature objects as well as to generate a visual message that can be used as a warning device for individuals during use of the device.

5. Claims 9 and 11 are rejected under 35 U. S. C. 103 (a) as being unpatentable over Prior Art in view of Parker.

The Prior art discloses a worklight and suggests that the exterior surface tends to get hot and that printed labels have been added to the surface of the worklight as a warning indicator, as claimed by the applicant with the exception of the warning indicator being a thermochromic warning indicator.

With respect to a transparent protective covering disposed in a readily visible location at least one exterior surface, a thermochromic substance disposed between said transparent protective covering and said at least one exterior surface and a thermal moderator disposed between said thermochromic substance and said at least one exterior surface, wherein said thermochromic substance is in thermal communication with at least a portion of at least one exterior surface through said thermal moderator and is formulated to undergo a conspicuous

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color change in response to heat from said at least one exterior surface during normal operation, said conspicuous color change revealing an indication that said at least one exterior surface is of a temperature hot to human touch, a warning indicia wherein said thermochromic substance is disposed so as to cover said indicia, wherein said thermochromic substance is normally substantially opaque at room temperature so as to substantially obscure said indicia and turns transparent in response to said heat from said at least one exterior surface so as to expose said indicia, Parker teaches a thermally insulated warning indicator that consists of a transparent protective covering (Fig. 4, translucent 28) disposed in a readily visible location at least one exterior surface (column 5, lines 1-11), a thermochromic substance (Fig. 4, liquid crystal composition 22) disposed between said transparent protective covering and said at least one exterior surface and a thermal moderator (Fig. 4, insulator 20) disposed between said thermochromic substance and said at least one exterior surface, wherein said thermochromic substance is in thermal communication with at least a portion of at least one exterior surface through said thermal moderator and is formulated to undergo a conspicuous color change in response to heat from said at least one exterior surface during normal operation (column 5, lines 1-11), said conspicuous color change revealing an indication that said at least one exterior surface is of a temperature hot to human touch (column 5, lines 1-11), a warning indicia (Fig. 4, masking 24) wherein said thermochromic substance is disposed so as to cover said indicia, wherein said thermochromic substance is normally substantially opaque at room temperature so as to substantially obscure said indicia and turns transparent in response to said heat from said at least one exterior surface so as to expose said indicia (column 1, lines 20-24). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was

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made to further modify the worklight with a warning indicator of the Prior Art, so as to include a thermally insulated warning indicator as taught by Parker, so as to further increase the usefulness of liquid crystal/thermochromic thermometers for indicating temperature of relatively high temperature objects as well as to generate a visual message that can be used as a warning device for individuals during use of the device.

6. Claim 12 is rejected under 35 U. S. C. 103 (a) as being unpatentable over Prior Art and Parker, as applied to claims 9 and 11 as stated above, and further in view of MacDonald (US 3,877,411).

The Prior art discloses a worklight with a warning indicator, as stated above in paragraph 5, with the exception of a recessed area to receive a warning indicator.

With respect to at least one exterior surface formed with a recessed area sized to receive a protective covering and a warning indicator such that the outer surface of said covering is substantially flush with said at least one exterior surface, MacDonald teaches a recessed area for a warning indicator that consists of at least one exterior surface formed with a recessed area (Fig. 1, recess 12) sized to receive a protective covering (Fig. 1, surface 15) and a warning indicator (Fig. 1, disc 4) such that the outer surface of said covering is substantially flush with said at least one exterior surface (Fig. 1). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify the worklight with a warning indicator of the Prior Art and Parker, so as to include a recessed area for a warning indicator as

taught by MacDonald, so as to provide a means to removably secure an indicator from a recessed area.

Response to Arguments

7. Applicant's arguments filed May 20, 2003 have been fully considered but they are not persuasive.

8. With regard to the applicant's three separate arguments:

a. The declarations filed on November 19, 2002 and May 20, 2003 have been entered and have been considered but do not overcome the rejection. The worklight has been established as an object that is a well known prior art and the Parker reference is used to indicate the increased temperature of an object, thus it would have been obvious to combine these two references, the fact that there is no one reference does not make it non-obvious to use these two references.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

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b. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., thickness of the moderator) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

c. In response to applicant's argument that liquid crystal thermometers is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, **if not, then be reasonably pertinent to the particular problem with which the applicant was concerned**, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

9. With regard to paragraph 8 of the examiner's office action (Paper No. 9). The reason why "moot in view of the new ground(s) of rejection" was primarily used was due to the fact that there was a slight change in the motivation statement of the primary references (Prior Art, Parker) thus it remains a proper statement.

10. In response to applicant's argument that the MacDonald reference and the Parker reference are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, **if not, then be reasonably pertinent to the particular problem with which the applicant was concerned**, in order to be relied upon as a basis for

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rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

11. Once again, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., thickness of the thermal moderator) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is confusing when the applicant states that the "thickness of the moderator" is not intended to be a limitation of the claims, when the applicant had just previously argued that a "2-inch thick moderator is unworkable".

12. Note that the applicant's drawings show a moderator must be used, there are no figures in which a moderator does not exist, the applicant's specification further supports the use of a thermal moderator (29) in order to avoid unacceptable performances by thermochromic inks (applicant's specification, page 6, lines 22-29). The use of a moderator is required in view of the applicant's drawings and specification.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tania C. Courson whose telephone number is (703) 305-3031. The examiner can normally be reached on Monday-Friday from 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached on (703) 308-3875. The fax number for this Organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



DIEGO F.F. GUTIERREZ
SUPERVISORY PATENT EXAMINER
GROUP ART UNIT 2859

TCC
July 30, 2003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Wade Lee

Serial No. 09/891,484

Filed: June 25, 2001

For: WORKLIGHT WITH THERMAL
WARNING

Examiner: Tania C. Courson

Group Art Unit: 2859

**DECLARATION OF WADE LEE
UNDER 37 CFR 1.132**

Mail Stop Non-Fee Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

May 7, 2003

Dear Sir:

I, Wade Lee, declare:

1. I am the applicant in the above-captioned application.
2. I have worked in the lighting industry continuously since 1987. In my current position I am a Principal and founder of EML Technologies LLC, a product development company that has developed and presently sells several lines of halogen worklights. At EML Technologies I am engaged in all aspects of the business relating to worklights. Specifically I am responsible for new product development, for product testing and UL safety standards compliance, for manufacturing, and for sales and marketing. I have been involved in all stages of worklight product development—from initial product conception to first designs and prototype fabrication, testing, revisions, and commercial production. I oversee performance and safety testing of our worklights and sometimes personally perform such tests myself. I also oversee worklight compliance with Underwriters Laboratories testing program. In addition to product development, I have primary responsibility for sales and marketing. In that capacity I make it a practice to be knowledgeable about current worklight products on the market. I frequently visit with our accounts, including such accounts as The Home Depot, Sears, Roebuck & Co., and Costco Inc. and am knowledgeable about the worklight products that these accounts presently carry or have carried in the past.

3. Prior to founding EML Technologies, I was Vice President for Engineering at Intelectron Incorporated. In that capacity I had responsibility for all aspects of new product development, including worklights, and oversaw worklight manufacturing and compliance with UL standards. At Intelectron I also worked closely with the Sales and Marketing Departments in all matters relating to worklights. As the principal technologist at Intelectron I frequently participated in sales presentations and interacted with such accounts as The Home Depot, Sears, Roebuck & Co., Menards, and Costco Inc, through which I became familiar with the worklight market. In addition, I regularly reviewed competitive products for possible patent infringement issues as well as to keep abreast of recent developments. Through my years of experience in the industry I am informed and knowledgeable about the matters I discuss below.

4. When I refer to worklights in this Declaration, I am referring to halogen worklights operating at the nominal 120-Volt power supply. These worklights have the common characteristic that they all get hot under the action of the halogen bulbs, which necessarily run significantly hotter than the more common incandescent bulb of comparable wattage. My invention in the above-captioned application addresses the hotness issue by providing a temperature warning indication that is visible when the worklight surface is hot and that is not visible when the surface is not hot.

5. Halogen worklights are in widespread use and have been for a number of years. They are carried as stock items as well as special promotional items in the nation's largest mass merchandisers and retailers in the professional and do-it-yourself and home-center markets. The following mass merchandisers, home centers and retailers carry halogen worklights on a regular basis in substantially all of their stores: The Home Depot, Sears, Lowes, Menards, Orchard Supply Hardware. In addition, these worklights are carried from time to time by Costco and Sam's Club. They are also carried by Grainger International, which is a major industrial supplier with large catalog sales.

6. Halogen worklights have been known for some time. I note, by way of illustration, Design Patent No. D207,967 of Harrison et al., issued June 20, 1967, which

shows an early halogen worklight or floodlight for use in photography. (The halogen bulb is plainly illustrated in the '967 patent.) Worklights became popular on the shelves of major retailers in the late 1980s and early 1990s and have remained popular ever since. All of these worklights (that is, the 120-Volt halogen variety) necessarily get hot enough to the touch to present a danger of injury to a user. The high operating temperature follows from the technical principle by which the halogen bulb operates and has been an ever-present problem.

7. To guard against the possibility of injury to a user from a hot worklight surface, worklight manufacturers have conventionally and almost uniformly relied on a printed warning label on the worklight surface. By way of illustration I note several such warnings from commercially available worklights. A simple actual warning label reads:

"WARNING - LAMP IS HOT!!!"

Including the three exclamation points! Another, more extensive warning label reads:

"HOT SURFACE: Warning - Risk of Fire/Injury to persons, Keep away from combustibles, Unplug to change bulb, Do not touch bulb. Caution - Risk of electric shock, do not use with extension cord near water or where water may accumulate, Keep lamp at least 16 feet (5m) from pools and spas, Keep plugs and receptacles dry, For use only on GFCI protected circuits, Suitable for wet location use."

These warnings are printed on gummed, heat-resistant labels that are adhered to a surface of the worklight. I do not recall ever seeing a commercially available worklight without such a warning label.

8. Hot worklight surfaces are also the concern of Underwriters Laboratories Inc. Underwriters Laboratories Inc. is an independent, not-for-profit product safety testing and certification organization. The Home Depot, Lowes, Sears Menards, Costco as well as most other large and small chains require their worklights to be UL-inspected and certified. As I stated above in Paragraphs 2 and 3, I presently oversee compliance with UL safety testing requirements for worklights and other products on behalf EML Technologies LLC and previously oversaw UL compliance on behalf of Intelectron Incorporated.

9. As a result I am familiar with UL requirements for worklights. The UL standard for the maximum temperature in the immediate vicinity of the worklight surface is 150 degrees centigrade (302 degrees Fahrenheit). Attached hereto is a true and accurate copy of an e-mail from a UL employee to me, in which I inquired about the relevant standard and in which the employee responds.

10. In the course of my investigations of the market for worklights I have had the opportunity to discuss with contractors and builders their usage of worklights and their comments and needs. Building contractors routinely use worklights in the course of building new houses and remodeling old ones. It is not uncommon for contractors to procure at least one new worklight for each new housing construction project. I consider the volume of homes being built or remodeled each year to be a rough casual measure for gauging a lower estimate on the number of worklights in use in the construction industry.

11. The Home Depot and Sears both sell halogen worklights under their own private brands and also sell them or have sold them in the past under such other third-party vendor brand names as Regent, Rite-Lite, IDC, The Designers Edge and others. The Home Depot private brand is Commercial Electric.[®] Sears sells worklights under two private brand designations: Craftsman[®] and Craftsman Professional.[®]

12. Attached hereto are true and accurate printouts of the following documents:

- Printout from The Home Depot web site www.homedepot.com showing halogen worklights offered for sale over the web (2 pages);
- Printout from the Sears web site www.sears.com showing halogen worklights offered for sale over the web (2 pages);
- Printout from Lowe's web site www.lowes.com showing halogen worklights offered for sale over the web (2 pages);
- Printout from The Designers Edge web site www.designersedge.com showing a range of worklights offered by The Designers Edge. A first page is the Worklight home page identifying the Home Light Series, the Pro Series, and the Pro Series

PLUS. This is followed by printouts showing the offerings of these series (2 pages for each series);

- The Home Depot Annual Report for the fiscal year ended February 3, 2002 (first 5 pages);
- Sears, Roebuck and Co. Annual Report for the fiscal year ended December 29, 2001 (first 4 pages);
- Lowe's Companies, Inc. Annual Report for the fiscal year ended February 1, 2003.

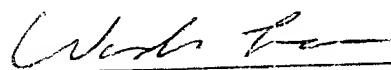
The printouts from the web sites are offered to illustrate the worklights' widespread popularity. The Home Depot, Sears, and Lowes are well known retailers. The Designers Edge holds itself out on its web site home page as "an international lighting manufacturer, distributor, and marketer of residential and industrial lighting." The worklight home page identifies The Designers Edge as "the world leader of Portable Worklights."

13. The Exhibits A, B and C accompanying the Response to Office Action of November 19, 2002 are true and accurate printouts from the web of the documents they purport to be. The Exhibits D, E and F accompanying the Supplemental Response to Office Action of December 9, 2002 are true and accurate printouts from the web of the documents they purport to be.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

5/7/03

Date

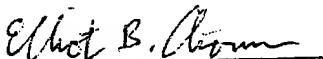


Wade Lee

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

5/15/03

Date

By 

Elliot B. Aronson
Reg. No. 29,279

From: <Emmanuel.B.Imson@us.ul.com>
To: <Wade.Lee@EMLtech.net>
Cc: "Elliot Aronson" <Elliot.Aronson@EMLtech.net>
Subject: Re: UL Worklight Temp tests
Date: Tuesday, June 25, 2002 4:29 PM

Wade,

The maximum surface temperature is 150C per Table 125.1, item 2 (New UL 153, 12th edition). However, any external enclosure surface temperatures exceeding 90°C (194°F) during the Normal Temperature Test shall be provided with a handle for positioning the light (114.3.1) "Exception: A work light is not required to comply with this requirement when it requires a tool for making aiming adjustments."

Regards,

Emmanuel Imson (Ext. 32944)
Project Engineer
Conformity Assessment Services
email: emmanuel.b.imson@us.ul.com

<Wade.Lee@EMLtech.net>
06/25/2002
03:44 PM
To: <emmanuel.b.imson@us.ul.com>
cc: "Elliot Aronson"
<Elliot.Aronson@EMLtech.net>
Subject: UL Worklight Temp tests

Hi Emmanuel,

I was wondering if you could give me the maximum surface temperature a worklight can reach? If you would be kind enough to give me the standard number and paragraph that states what the max temp is, I would really appreciate it.

Thanks again,
WADE

Worklights



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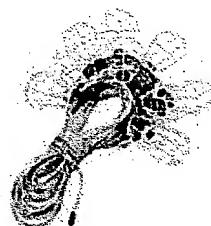
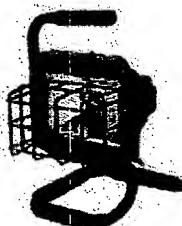
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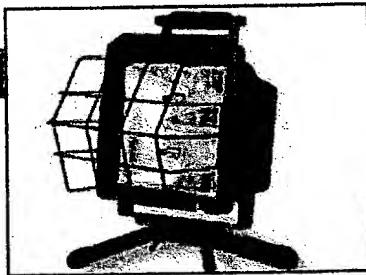
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Types of Worklights**Halogen**

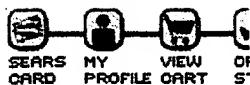
 These models offer up to 500 watts of light per lamp for maximum brightness. Made to operate on standard 120-volt household current, halogen lights are approved for indoor or outdoor use. Some models feature an adjustable tripod stand. Heavy-duty wire guards shield the hot halogen bulb. Dual lamp models provide 1000 watts of light. The bulb is included with the light.

Fluorescent

 These 13-watt lights provide as much light as a 75-watt incandescent. The streamline design gives you flexibility to use in tight spaces. And the fluorescent lamp stays cool. The bulb is included with the light.

Incandescent

 These low-cost lights typically hold a 75-watt bulb. Their small size also gives you flexibility to use in tight spaces. Beware, the incandescent bulb is not shielded and can get hot. Bulb is not included with the light.



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 Vector	Spotlight with Built-In Work Stand. Sport Spot® Sears #: 03493171000	\$29.99 Rebate(s) Available ADD TO CART ★ Store Pick-Up
 EML	1000 watt Portable Work Light with Tripod Sears #: 03483970000	\$29.99 Rebate(s) Available BUY OPTIONS ADD TO CART
 Rite-lite	500 watt Halogen Work Light, Convertible Sears #: 03473921000	\$19.99 Rebate(s) Available ADD TO CART
 Vector	Spotlight with Work Stand, Sport Spot® Sears #: 03493170000	\$19.99 Rebate(s) Available ADD TO CART ★ Store Pick-Up

★ This item may be available for pick-up at your local store.
Select a product to check availability. [Store Pick-Up Help](#)

7 item(s) match your search

"Buy Options" buttons indicate an item is out of stock for home delivery. Click the button for other purchasing opt

Image shown may differ from actual product appearance.

Not all products are available in every Sears store.

Click the "Add to Cart" button for final price.

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Work Lights

Item availability and price may vary by location.

Page 1 of 1

Sort By...



Regent Heavy Duty Professional Work Light

\$28.94 [Buy Now!](#)

 Includes extension cord with reel and 500 watt halogen bulb,
 Weatherproof on/off safety switch

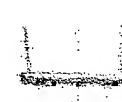

Regent Twin Stand Work Light with Tripod

\$60.00 [Buy Now!](#)

 Heavy duty 1 3/4" diameter tubular steel pole adjust to 8' in height, Tip over safety switch, Independent weather proofing on/off safety switches, Vinyl coated fixture aiming handles, Approved for Ind ...[more](#)


Regent 300 Watt Cool Touch Halogen Worklight

\$32.96 [Buy Now!](#)

 Exclusive tough polycarbonate outer shell design keeps surface cooler,
 Exclusive "Cool Touch" lens guard, Patented roll-over safety feature, Easy
 adjustments, Fixture folds down for compact storage


Regent 300 Watt 36" Halogen Shop Light

\$26.97 [Buy Now!](#)

 Twin 150 watt halogen (included) provides 4,800 lumens of light, 10%
 more light output than twin 40 watt fluorescent shop lights, Instant-on,
 pure white light, Starts at any temperature, Attractive cont ...[more](#)


Regent Halogen Work Light

\$13.97 [Buy Now!](#)

 Die cast aluminum construction, Includes 500 watt halogen bulb,
 Provides up to 10,000 sq.ft. of coverage, Comfortable foam padded
 handle, Grounded cord, Tempered safety glass lens, For indoor/outdoor


Regent 2-In-1 Convertible Work Light

\$30.97 [Buy Now!](#)

 Includes 500 watt halogen bulb, Converts in seconds - no tools needed,
 Provides 10,000 square feet of coverage, Weatherproof on/off switch,
 wire guard and light adjustments, Adjustable telescopic stan ...[more](#)


Regent Halogen Clamp Light

\$21.96 [Buy Now!](#)
Brows Circ


2003 Gui

Ak Ze


Shop Grill G



Outd or Gui

Features



Visit Cub Cad



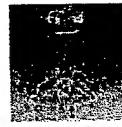
Die cast aluminum tubular steel with orange and black finish, 6' power cord, Patented clamp bracket for multiple adjustments, Includes 250 watt premium halogen bulb, Indoor/outdoor use, Lifetime warra ...[more](#)



Regent Halogen Task Light

\$25.90 [Buy Now!](#)

White finish, Twin 150 watt halogen fixtures, Fixture head rotates 360 degree, 10% more light output than a standard twin 40 watt fluorescent shop light, Easily mounts to ceiling or wall with mounting ...[more](#)



Regent Twin Stand Quartz Work Light

\$89.98 [Buy Now!](#)

Die cast aluminum tubular steel with orange and black finish stand extends from 46-88"H, Balanced foam grip handle, Heavy duty wire face guard, Spare bulb in handle design, Tip over safety switch, 3 p ...[more](#)

Page 1 of 1

Sort By...

WORKLIGHTS

[Company Profile](#) | [Contact Us](#)[Home](#)[What's New](#)[Worklights](#)[Motion Activated Lighting](#)[Security Lighting](#)[Industrial Lighting](#)

Worklights

As the world leader of Portable Worklights we offer innovative, high quality Halogen Worklights and Fluorescent Worklights designed for the Do It Yourselfer and Professional Tradesman.

Halogen



Home Light Series™

- Portable Lighting for the Do It Yourself Home Owner
- Quality Construction
- Home Projects
- 1 year Warranty



Pro Series™

- Portable Powerlights for the Professional User
- Heavy Duty Construction
- Contractor Grade
- 5 year Warranty



Pro Series PLUS™

- Portable Powerlights for Commercial and Industrial Applications
- Extra Heavy Duty Construction
- Commercial / Industrial Grade
- Lifetime Warranty

Fluorescent



Cool Brite™

- Portable Fluorescent Lighting for the Do It Yourself Home Owner
- Heavy Duty Construction
- Cool Energy Efficient Lighting
- 10 year Warranty



Cool Zone™

- Heavy Duty Fluorescent Portable Lighting for the Professional User
- Extra Heavy Duty Construction
- Bright & Cool Lighting
- Lifetime Warranty

HOME LIGHT WORKLIGHTS

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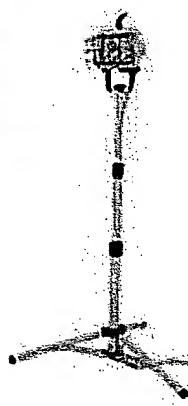
Worklights - Halogen

[Home Light Series™](#) | [Pro Series™](#) | [Pro Series PLUS™](#)

Home Light Series™ - Halogen Worklights

All lights shown are approved for outdoor use.

500watt Convertible Tripod and Floor Stand



- Telescopes from 40" to 67" with "Easy Grip" locking nuts
- Complete with additional floor stand
- Cord storage brackets
- Weatherproof on/off switch
- Complete with 500w halogen bulb
- Limited 1 year Warranty
- UL & CUL Listed

Model #: UPC #:
L-10 0-90529-606081

Case Pack:
2

1000watt Halogen Telescoping Worklight



- Telescopes from 40" to 67" with "Easy Grip" locking nuts
- Cord storage brackets on pole
- Weatherproof on/off switch
- Complete with two - 500w halogen bulbs
- Limited 1 year Warranty
- UL & CUL Listed

Model #: UPC #:
L-14 0-90529-450219

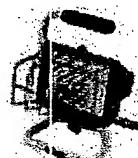
Case Pack:
2

1000watt Halogen Telescoping Worklight with Sled Base



- Telescopes from 40" to 67" with "Easy Grip" locking nuts
- Cord storage brackets on pole
- Weatherproof on/off switch
- Complete with two - 500w halogen bulbs
- Limited 1 year Warranty
- UL & CUL Listed

500watt Halogen Portable Worklight

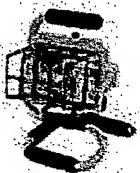


- "S" stand with foam grip handle
- Complete with 500w halogen bulb
- Limited 1 year Warranty
- UL & CUL Listed

Model #:	UPC #:	Case Pack:
L-14 sled	0-90529-611139	2

Model #:	UPC #:	Case Pack:
L-18	0-90529-450028	6

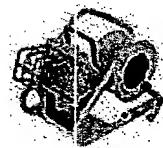
500watt Halogen Portable Worklight



- "S" stand with foam handle
- Weatherproof on/off switch
- Complete with 500w halogen bulb
- Limited 1 year Warranty
- UL & CUL Listed

Model #:	UPC #:	Case Pack:
L-33	0-90529-605862	6

500watt Halogen Worklight With 25' Cord and Reel



- Sled Base
- Cord reel with 25' 18/3grounded Extension cord
- Weatherproof on/off switch
- Complete with 500w bulb
- Limited 1 year Warranty
- UL & CUL Listed

Model #:	UPC #:	Case Pack:
L-809	0-90529-603448	4

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PRO SERIES

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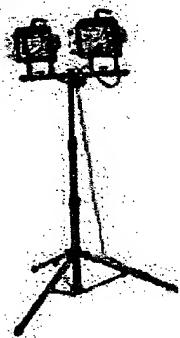
Worklights - Halogen

[Pro Series™](#) | [Home Light Series™](#) | [Pro Series PLUS™](#)

Pro Series™ - Halogen Worklights

All lights shown are approved for outdoor use.

1000watt Tripod Power Light



- Heavy duty construction
- Hinged style face frame
- Telescopes from 40" to 76" with "Easy Grip" locking nuts
- Adjustable extension leg for use on uneven surfaces
- Wire cord storage brackets on pole
- Extra bulb storage tube
- Weatherproof on/off switch
- Complete with three - 500w halogen bulbs
- Limited 5 year Warranty
- UL & CUL Listed

Model #: UPC #:
L-11 0-90529-605916

Case Pack:
2

500watt Halogen S-Handle Power Light:



- Heavy duty construction
- Stand with foam handle and foam feet
- Large face frame and housing for cooler operation and longer bulb life
- Extra bulb storage tube
- Weatherproof on/off switch
- Complete with two 500w halogen bulbs
- Limited 5 year Warranty
- UL & CUL Listed

Model #: UPC #:
L-38 0-50929-608801

Case Pack:
6

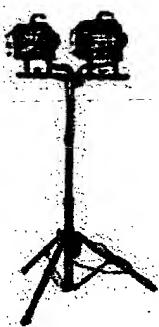
1000watt Power Light Twin Head Tripod with GFCI Outlet

- Safety tempered glass lenses
- Hinged style face frames
- Heavy Duty Telescoping stand with leg extension for use on uneven

500watt Power Light Portable Worklight with Duplex Outlet



- Heavy duty construction
- Weatherproof on/off switch
- Extra bulb storage tube
- Complete with



- surfaces
- Telescopes from 40" to 76" with "Easy Grip" locking nuts
- Wire cord storage bracket on pole
- Extra bulb storage tube
- Weatherproof individual on/off switches for each light head
- Complete with three - 500 watt halogen bulbs
- Limited 5 year warranty
- UL & CUL Listed
- two - 500w halogen bulbs
- For dry location use
- Limited 5 year Warranty
- UL & CUL Listed

Model #: UPC #:
L-85 090529-604247

Case Pack:
1

Model #: UPC #:
L-835 0-90529-606258

Case Pack:
4

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PRO SERIES PLUS WORKLIGHTS

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Worklights - Halogen

[Pro Series PLUS™](#) | [Home Light Series™](#) | [Pro Series™](#)

Pro Series PLUS™ - Halogen Worklights

All lights shown are approved for outdoor use.

500watt Halogen Power Light with Combo Base



- Heavy duty construction
- Telescopes from 40" to 76" with "easy grip" locking nuts
- Cord storage bracket on pole
- Weatherproof on/off switch
- Extra bulb storage tube
- Complete with two - 500w halogen bulbs
- Limited Lifetime Warranty
- Sled Base and Tripod included
- UL & CUL Listed

Model #: UPC #:
L-13 0-90529-600003

Case Pack:
2

500watt Halogen Wall Mounted Adjustable Arm Worklight

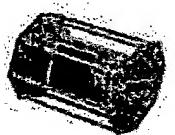


- Heavy duty construction
- Adjustable arm extends from wall 40"
- Weatherproof on/off switch
- Extra bulb storage tube
- Complete with two - 500w halogen bulbs
- Limited Lifetime Warranty
- UL & CUL Listed

Model #: UPC #:
L-41 0-90529-451063

Case Pack:
1

500watt Halogen "Gladiator" Spring Mounted

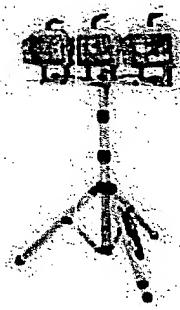


- Professional grade construction
- Light housing supported by stainless steel springs providing protection against impact extending bulb life

1500watt Halogen Triple Head Tripod Power Light

- Professional grade construction
- Hinged style face frame
- Professional grade construction
- Adjustment extension leg for use on

- Heavy duty style roll cage gives maximum protection
- Extra bulb storage tube
- Complete with two - 500w halogen bulbs
- Limited Lifetime Warranty
- UL & CUL Listed



- uneven surface
- Wire cord storage bracket on pole
- Telescopes from 40" to 76" with "easy grip" locking nuts
- Weatherproof on/off switches
- Extra bulb storage tubes
- Complete with four - 500w halogen bulbs
- Limited Lifetime Warranty
- UL & CUL Listed

Model #: UPC #:
L-112 0-90529-611009

Case Pack:
1

Model #: UPC #:
L-338 0-90529-610828

Case Pack:
1

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The Designers
E D G E

<DOCUMENT>
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<SEQUENCE>1
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<DESCRIPTION>THE HOME DEPOT, INC.
<TEXT>
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SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K

FOR ANNUAL AND TRANSITION REPORTS PURSUANT
TO SECTIONS 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF
THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended February 3, 2002
OR
 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE
SECURITIES EXCHANGE ACT OF 1934

Commission File Number 1-8207

THE HOME DEPOT, INC.

(Exact Name of Registrant as Specified in Its Charter)

DELAWARE

(State or Other Jurisdiction of Incorporation or Organization)

IRS NO. 95-3261426
(I.R.S. Employer Identification No.)

2455 PACES FERRY ROAD, ATLANTA, GEORGIA
(Address of Principal Executive Offices)

30339-4024
(Zip Code)

Registrant's telephone number, including area code: (770) 433-8211

SECURITIES REGISTERED PURSUANT TO SECTION 12(B) OF THE ACT:

TITLE OF EACH CLASS	NAME OF EACH EXCHANGE ON WHICH REGISTERED
Common Stock, \$.05 Par Value	New York Stock Exchange

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT: NONE

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No []

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements

incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

The aggregate market value of the Common Stock of the Registrant held by nonaffiliates of the Registrant on April 1, 2002, was \$109,162,373,624. The aggregate market value was computed by reference to the closing price of the Common Stock on the New York Stock Exchange on such date. For the purposes of this response, executive officers and directors are deemed to be the affiliates of the Registrant and the holdings by nonaffiliates was computed at 2,263,840,183 shares.

The number of shares outstanding of the Registrant's Common Stock as of April 1, 2002 was 2,350,050,699 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's 2001 Annual Report to Stockholders are incorporated by reference in Part II.

Portions of the Registrant's Proxy Statement for the 2002 Annual Meeting of Stockholders to be held on May 29, 2002, are incorporated by reference in Part III.

<PAGE>

INCORPORATION BY REFERENCE

Filings made by companies with the Securities and Exchange Commission sometimes "incorporate information by reference." This means that the company is referring you to information that was previously filed with the SEC, and this information is considered to be part of the filing you are reading. The following materials are incorporated by reference into this Form 10-K:

- Information contained in our Proxy Statement for the 2002 Annual Meeting of Stockholders is incorporated by reference in response to Items 10 through 13 of Part III.
- Information contained on pages 24 through 35 of our 2001 Annual Report to Stockholders is incorporated by reference in response to Item 8 of Part II.

FORWARD-LOOKING STATEMENTS MAY PROVE INACCURATE

Certain statements we make in this report, and other written and oral statements made by us or our authorized executive officers on our behalf may constitute "forward-looking statements" within the meaning of the federal securities laws. Words or phrases such as "should result," "are expected to," "we anticipate," "we estimate," "we project," "we believe" or similar expressions are intended to identify forward-looking statements. These statements are subject to certain risks and uncertainties that could cause actual results to differ materially from the Company's historical experience and its present expectations or projections. These risks and uncertainties include, but are not limited to:

- unanticipated weather conditions;
- stability of costs and availability of sourcing channels;
- our ability to attract, train and retain highly-qualified associates;
- conditions affecting the availability, acquisition, development and ownership of real estate;
- general economic conditions;
- the impact of competition; and
- regulatory and litigation matters.

You should not place undue reliance on forward-looking statements, since such statements speak only as of the date they are made. Additional information concerning the risks and uncertainties listed above and other factors you may wish to consider are provided beginning on page 25 under "Item 7. Management's Discussion and Analysis of Results of Operations and Financial Condition - Forward-Looking Statements May Prove Inaccurate."

<PAGE>

PART I

ITEM 1. BUSINESS

The Home Depot, Inc. is the world's largest home improvement retailer and the second largest retailer in the United States based on net sales volume for fiscal 2001. At the end of our 2001 fiscal year, we were operating 1,333 stores. Most of our stores are either Home Depot(R) stores or EXPO Design Center(R) stores. A description of each of these types of stores is as follows:

- HOME DEPOT STORES: Home Depot stores sell a wide assortment of building materials and home improvement and lawn and garden products and provide a number of services. Home Depot stores average approximately 109,000 square feet of enclosed space, with an additional approximately 22,000 square feet in the outside garden area. At fiscal year end, we had 1,287 Home Depot stores located throughout the United States, Canada, Argentina and Mexico.
- EXPO DESIGN CENTER STORES: EXPO Design Center stores sell products and services primarily for home decorating and remodeling projects. Unlike Home Depot stores, EXPO Design Center stores do not sell building materials and lumber. Rather, EXPO Design Center stores offer interior design products, such as kitchen and bathroom cabinetry, tile, flooring and lighting fixtures and installation services. The prototypical EXPO Design Center is approximately 101,000 square feet. At the end of fiscal 2001, we were operating 41 EXPO Design Center stores in the United States.

Additionally, at the end of fiscal 2001 we were operating four Villager's(SM) Hardware test stores in New Jersey. Villager's Hardware stores offer products for home enhancement and small projects. We also have one test store called The Home Depot Floor Store(SM) in Texas that sells only flooring products. We also began testing a new store format focused on the professional customer, and at the end of fiscal 2001, we were operating two Home Depot Supply stores.

We offer products through two direct marketing subsidiaries. Maintenance Warehouse(R), a wholly-owned subsidiary, is a direct marketer of maintenance, repair and operations products serving primarily the multi-family housing and lodging facilities management market. The company fills orders through its 21 distribution centers, which are located throughout the United States. National Blinds & Wallpaper(SM), a wholly-owned subsidiary, is a mail order service for wallpaper, custom window treatments and rugs.

We operate three other wholly-owned subsidiaries, Georgia Lighting, Inc., Apex Supply Company, Inc. and Your "other" Warehouse, Inc. Georgia Lighting(R), a specialty lighting designer, distributor and retailer, has seven retail locations in Georgia. Apex Supply Company is a wholesale supplier of plumbing, HVAC, appliances and other related professional products with 22 locations in Florida, Georgia, South Carolina and Tennessee. In November 2001, Home Depot

acquired Your "other" Warehouse(R), which is a plumbing distributor that focuses on special order fulfillment through its four facilities located in Louisiana and Nevada.

<PAGE>

On October 31, 2001, we completed the sale of our five stores in Chile to our former joint venture partner, Falabella. In February 2002, the Company also sold its four stores in Argentina.

During fiscal 2001, we acquired TotalHOME, Mexico's second largest home improvement retailer that has three stores in Monterrey and one in Mexico City. In March 2002, we announced that we have entered into an agreement to purchase Del Norte, a four-store chain of home improvement stores in Juarez, Mexico. The transaction is subject to approval by the Mexican government.

The Home Depot, Inc. is a Delaware corporation that was incorporated in 1978. Our Store Support Center (corporate office) is located at 2455 Paces Ferry Road, Atlanta, Georgia 30339-4024. The telephone number is (770) 433-8211.

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RETAIL BUSINESSES

HOME DEPOT STORES

OPERATING STRATEGY. The operating strategy for Home Depot stores is to offer a broad assortment of high-quality merchandise and services at competitive prices using highly knowledgeable, service-oriented personnel and aggressive advertising. We believe that our associates' knowledge of products and home improvement techniques and applications is very important to our marketing approach and our ability to maintain customer satisfaction. We regularly check our competitors' prices to ensure that our prices are competitive within each market.

CUSTOMERS. Home Depot stores serve three primary customer groups:

- DO-IT-YOURSELF ("D-I-Y") CUSTOMERS: These customers are typically homeowners who purchase products and complete their own projects and installations. To complement the in-store expertise of our associates, Home Depot stores offer many D-I-Y "how-to" clinics taught by associates and merchandise vendors.
- DO-IT-FOR-ME ("D-I-F-M") CUSTOMERS: These customers are typically homeowners who purchase materials themselves and hire third parties to complete the project and/or installation. We offer these customers installation services for a variety of products through third party contractors.
- PROFESSIONAL CUSTOMERS: These customers are professional repair remodelers, general contractors and tradesmen. In many stores we offer a variety of programs to these professional customers, including additional delivery and will-call services, dedicated staff, extensive merchandise selections and expanded credit programs, all of which we believe increase

sales.

PRODUCTS. A typical Home Depot store stocks approximately 40,000 to 50,000 product items, including variations in color and size. Each store carries a wide selection of high-quality and nationally advertised brand name merchandise. The following table shows the percentage of sales of each major product group for each of the last three fiscal years:

<TABLE>
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<S>		Percentag Fisca
Product Group		
Building materials, lumber and millwork.....	23.6%	
Plumbing, electrical and kitchen.....	28.1	
Hardware and seasonal.....	27.6	
Paint, flooring and wall coverings.....	20.7	
Total.....	100.0%	

</TABLE>

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We buy our store merchandise from vendors located throughout the world. We are not dependent on any single vendor. Most of our merchandise is purchased directly from manufacturers, which eliminates "middleman" costs. We believe that competitive sources of supply are readily available for substantially all of the products we sell in Home Depot stores.

We maintain a global sourcing merchandise program to source high-quality products directly from overseas manufacturers, which gives our customers a broader selection of products and better values while enhancing our gross margin. Our product development managers travel internationally to identify opportunities to purchase items directly for our stores. This enables us to improve product quality, to import products not currently available to our customers and to offer at a lower price products that would otherwise be purchased from third party importers. We currently source products from more than 500 manufacturers in approximately 40 countries.

To complement the established national brand name products we offer, we have formed strategic alliances with vendor partners to market products under brand names that are only offered through The Home Depot. At the end of fiscal year 2001, we offered products under proprietary and other exclusive brands, including Thomasville(R) kitchen and bathroom cabinets; RIDGID(R) power tools; Behr Premium Plus(R) paint; Mill's Pride(R) cabinets; GE(R) SmartWater water heaters; and Vigoro(R) fertilizer. In the future, we may consider additional strategic alignments with other vendors to offer products under proprietary brand names. Additionally, we will continue to assess opportunities to expand the range of products available under existing proprietary brands.

10-K 1 sears10k2001.htm FORM 10K

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 10-K

For Annual and Transition Reports pursuant to Sections 13 or 15(d) of the Securities Exchange Act of 1934

X

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF

THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 29, 2001

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

Commission file number 1-416

SEARS, ROEBUCK AND CO.

(Exact Name of Registrant as Specified in Its Charter)

New York
(State of Incorporation)
3333 Beverly Road, Hoffman Estates, Illinois
(Address of principal executive offices)

36-1750680
(I.R.S. Employer Identification No.)
60179
(Zip Code)

Registrant's telephone number, including area code: (847) 286-2500

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of Each Exchange on Which Registered
Common Shares, par value \$0.75 per share	New York Stock Exchange Chicago Stock Exchange Pacific Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

On January 31, 2002, the Registrant had 320,374,844 common shares outstanding. Of these, 242,383,521 common shares, having an aggregate market value (based on the closing price of these shares as reported in a summary of composite transactions in *The Wall Street Journal* for stocks listed on the New York Stock Exchange on January 31, 2002) of approximately \$12.8 billion, were owned by shareholders other than (i) directors and executive officers of the Registrant and (ii) any person known by the Registrant as of the date thereof to beneficially own five percent or more of Registrant's common shares.

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months and (2) has been subject to such filing requirements for the past 90 days.

Yes X No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. []

Documents Incorporated By Reference

Part III of this Form 10-K incorporates by reference certain information from the Registrant's definitive Proxy Statement, dated March 27, 2002, for its Annual Meeting of Shareholders to be held on May 9, 2002 (the "2002 Proxy Statement").

PART I

Item 1. Business

Sears, Roebuck and Co. ("Sears") originated from an enterprise established in 1886 and was incorporated under the laws of New York in 1906. Its principal executive offices are located at 3333 Beverly Road, Hoffman Estates, Illinois. Sears (together with its consolidated subsidiaries, the "Company") is a multi-line retailer that offers a wide array of merchandise and related services. In addition, through its Credit and Financial Products businesses, the Company offers its customers various financial, credit and related insurance products. The Company is organized into four principal business segments - Retail and Related Services, Credit and Financial Products, Corporate and Other, and Sears Canada. The Company is among the largest retailers of merchandise in North America.

The domestic business segments are Retail and Related Services, Credit and Financial Products and Corporate and Other. The Company considers its operations in both Puerto Rico and the United States as domestic.

The Sears Canada segment consists of similar retail, credit and corporate operations conducted through a majority-owned subsidiary in Canada.

For further information, see "Retail and Related Services", "Credit and Financial Products", "Corporate and Other" and "Sears Canada" below and "Management's Discussion and Analysis" under Item 7 hereof.

Information regarding revenues, operating income, total assets and capital expenditures of the Company's business segments for each of the three fiscal years ended December 29, 2001, December 30, 2000 and January 1, 2000 is contained in Note 15 of the Notes to Consolidated Financial Statements, in Item 8 hereof. Information on the components of revenues is included in "Management's Discussion and Analysis" in Item 7 hereof.

The Company's business segments are defined as follows:

Retail and Related Services - consisting of:

Full-line Stores - 867 Full-line Stores, averaging approximately 90,000 selling square feet, located primarily in the best malls in the nation and offering:

- ***Hardlines*** - A full assortment of appliances, electronics and home improvement products including fitness and lawn and garden equipment; products range from major national brands to exclusive Sears brands such

as Kenmore, Craftsman and WeatherBeater. Certain hardlines products are also sold online at Sears.com and through three Sears Appliances and Electronics Stores, a new retail format which is being tested by the Company. These three stores, averaging 15,000 selling square feet, are located in neighborhood shopping centers and offer the same appliance and electronic products found in the Full-line Stores.

- *Soflines* - A complete selection of fashionable, quality apparel and accessories for the whole family, fine jewelry and home fashions, at value prices; includes leading national brands as well as exclusive Sears brands such as Canyon River Blues, Fieldmaster, Crossroads, Apostrophe and TKS Basics.
- *Sears Auto Centers* - Offer major national brands of tires, DieHard and other brands of batteries and related automotive services.
- *Sears.com* - Sears online presence, offers a limited assortment of hardlines and softlines merchandise.

Specialty Stores - More than 1,300 Specialty Stores, located primarily in free-standing, off-the-mall locations or high-traffic neighborhood shopping centers.

- *Dealer Stores* - 793 primarily independently-owned stores, predominately located in smaller communities and averaging 5,400 selling square feet, that offer appliances, electronics, lawn and garden merchandise, hardware and automobile batteries. Dealer Stores carry exclusive Sears brands such as Craftsman, Kenmore and DieHard as well as a wide assortment of national brands.
- *Hardware Stores* - 248 neighborhood Hardware Stores under the Sears Hardware and Orchard Supply Hardware names, ranging from 20,000 to 40,000 selling square feet, that carry Craftsman tools and lawn and garden equipment, a wide assortment of national brands and other home improvement products.
- *National Tire & Battery (NTB)* - 223 stores that offer major national brands of tires, DieHard and other brands of batteries and related services.
- *The Great Indoors* - 13 stores for home decorating and remodeling, averaging approximately 100,000 selling square feet, dedicated to the four main rooms of the house: kitchen, bedroom, bathroom and great room.
- *Commercial Sales* - Primarily targets home builders, remodelers and property managers for appliance purchases as well as vocational schools, factory maintenance and service companies for industrial tool purchases. Commercial Sales has also implemented the Appliance Select program, which utilizes 82 Full-line Stores as showrooms to target the new home buyer and offers a full selection of Kenmore and other major national brand kitchen and home appliances.
- *Outlet Stores* - 35 stores averaging 29,000 selling square feet that offer appliances, electronics and lawn and garden merchandise.
- *Homelife Furniture Stores* - Included in 1999 until January 30, 1999, when the Company sold Homelife.

Related Services - consists primarily of:

- *Sears Repair Services* - A broad range of services including service contracts, product installation and repair services primarily for products sold by the Company.

- *Direct to Customer* - Direct marketing of goods and services, clubs and services memberships, merchandise through specialty catalogs and impulse and continuity merchandise.

Credit and Financial Products:

This segment manages the Company's domestic portfolio of credit card receivables. The domestic credit card receivables portfolio consists primarily of Sears Card and Sears ChargePlus (collectively "Sears Card") and Sears Gold MasterCard and The Great Indoors Gold MasterCard (collectively "Sears Gold MasterCard") account balances. The proprietary Sears Card receivables are generated primarily from purchases of merchandise and services from the Company's domestic operations. The Sears Gold MasterCard products are widely accepted by merchants outside the Company. The Sears Gold MasterCard product receivables are generated from purchases from the Company and other merchants, balance transfers and cash advances. This segment also sells related financial products such as credit protection and insurance products.

Sears National Bank (the "Bank"), a wholly-owned subsidiary of Sears based in Arizona, is a limited purpose credit card bank engaging in credit card operations. The Bank is subject to certain restrictions under federal law applicable to credit card banks as well as to Arizona credit card lending guidelines. The Bank originates accounts in all fifty states.

Corporate and Other:

Corporate and Other operations include activities that are of an overall holding company nature, primarily consisting of administrative activities, the costs of which are not allocated to the Company's businesses. The Corporate and Other segment also includes two businesses that are under strategic review. In 2001, the Company added its Sears Termite and Pest Control business and the Sears Home Improvement Services businesses (primarily sales of home siding and windows) to the Corporate and Other segment. During 2001, the Company sold the Sears Termite and Pest Control business. The Home Improvement Services business remains under strategic review.

Sears Canada:

The Company conducts similar retail, credit and corporate operations in Canada through Sears Canada Inc. ("Sears Canada"), a consolidated, 54.4% owned subsidiary of Sears.

On December 30, 1999, Sears Canada completed a share purchase transaction with The T. Eaton Company Limited ("Eaton's"). Sears Canada acquired 16 Eaton's store locations and an additional three leased Eaton's store locations, among other assets. Of the 19 Eaton's locations acquired during fiscal 2000, Sears Canada converted 10 locations to Sears Canada department stores (three in replacement of existing Sears Canada stores in close proximity to the Eaton's locations), one to a Sears Furniture Store, one to an outlet store and opened seven stores under the Eaton's format. In February 2002, Sears Canada announced its intention to convert the remaining seven Eaton's stores to Sears Canada stores.

Seasonality

Due to holiday buying patterns, merchandise sales traditionally are higher in the fourth quarter than in the other quarterly periods, and the Company typically earns a disproportionate share of operating income in the fourth quarter.

<DOCUMENT>
 <TYPE>10-K
 <SEQUENCE>1
 <FILENAME>form10k2001e.txt
 <DESCRIPTION>LOWE'S COMPANIES, INC. FORM 10-K
 <TEXT>

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended February 1, 2002
OR

[] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 1-7898

LOWE'S COMPANIES, INC.
(Exact name of registrant as specified in its charter)

NORTH CAROLINA	56-0578072
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer identification No.)

1605 CURTIS BRIDGE ROAD, WILKESBORO, N.C.	28697
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (336) 658-4000

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock \$.50 Par Value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: NONE

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such report(s), and (2) has been subject to such filing requirements for the past 90 days. Yes , No .

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. []

The aggregate market value of the voting stock held by non-affiliates of the

registrant at April 1, 2002, based on a closing price of \$43.23 per share, was \$30,069,758,953.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date:

Class: COMMON STOCK, \$.50 PAR VALUE, Outstanding at April 1, 2002:
776,775,934 shares.

Documents Incorporated by Reference

Annual Report to Security Holders for fiscal year ended February 1, 2002: Parts I and II. With the exception of specifically referenced information, the Annual Report to Security Holders for the fiscal year ended February 1, 2002 is not to be deemed filed as part of this report. Proxy Statement for the 2001 Annual Meeting which will be filed within 120 days after February 1, 2002: Part III.

Part I

Item 1 - Business

General

Lowe's Companies, Inc. (the Company or Lowe's) is the second largest retailer of home improvement products in the world, with a specific emphasis on retail do-it-yourself (DIY) and commercial business customers. Lowe's specializes in offering products and services for home improvement, home decor, home maintenance, home repair and remodeling, and maintenance of commercial buildings. As of February 1, 2002, Lowe's operated 744 stores in 42 states, with approximately 80.7 million square feet of retail selling space.

Lowe's was incorporated in North Carolina in 1952 and has been a publicly held company since 1961. Lowe's common stock is listed on the New York Stock Exchange, with shares trading under the ticker symbol "LOW." Lowe's general offices are located in Wilkesboro, North Carolina.

Lowe's has one reportable industry segment - the operation of home improvement retail stores. See Item 6 "Selected Financial Data" for the historical data of revenues, profits and identifiable assets of the Company.

Store Expansion

Lowe's is continuing to maintain an aggressive growth strategy. Lowe's current prototype store has a 121,000 square foot sales floor with an attached lawn and garden center comprising approximately 30,000 additional square feet. Lowe's 2002 expansion plan calls for opening approximately 123 stores (including the relocation of approximately 8 smaller format stores). The Company is focusing much of its future expansion on metro markets with populations of 500,000 or more. Stores in these larger markets made up approximately 65% of the total expansion in 2001 and will comprise a similar percentage of growth in 2002. The following table illustrates the growth of the Company over the last three years.

	2001	2000	1999
Number of stores, beginning of year	650	576	520
New stores opened	101	80	60

Relocated stores opened	14	20	31
Stores closed (including relocated stores)	(21)	(26)	(35)
Number of stores, end of year	744	650	576

Customer Service

Lowe's serves both retail and commercial business customers. Retail customers are primarily do-it-yourself homeowners and others buying for personal and family use. Commercial business customers include repair and remodeling contractors, electricians, landscapers, painters, plumbers and commercial and residential building maintenance professionals. Each Lowe's store caters to these customers by combining the merchandise, sales and service of: a home fashions and interior design center; a lawn and garden center; an appliance dealer; a hard goods discounter; a hardware store; an air conditioning, heating, plumbing and electrical supply center; and a building materials supplier.

Lowe's offers two proprietary credit cards - one for individual retail customers and the other for commercial business customers. Lowe's commercial business customers can also make purchases on credit by using Lowe's in-house accounts. In addition, Lowe's accepts Visa, MasterCard, Discover and American Express credit cards.

Products

A typical Lowe's home improvement warehouse stocks more than 40,000 items, with hundreds of thousands of items available through our special order system. Each store carries a wide selection of nationally advertised brand name merchandise. The Company's merchandise selection supplies both the DIY retail and commercial business customer with items needed to complete home improvement, repair, maintenance or construction projects. See Note 15 on page 38 of the Annual Report to Security Holders for fiscal year ended February 1, 2002 for the table illustrating sales by product category for each of the last three fiscal years.

Excluding special order vendors, the Company sources its products from approximately 7,000 merchandise vendors worldwide, with no single vendor accounting for more than 4% of total purchases. The Company is not dependent upon any single vendor. To the extent possible, the Company utilizes its Global Sourcing Division to purchase directly from foreign manufacturers and avoid third party importers. Management believes that alternative and competitive suppliers are available for virtually all its products, further increasing opportunities for product quality and operating margins. Lowe's has begun to cultivate and execute vendor alliance partnerships with key vendor partners in an effort to enhance our market share where such partnerships are advantageous to the customer, Lowe's and the vendors.

In order to maintain appropriate inventory levels in stores and to improve distribution efficiencies, the Company operates seven highly automated regional distribution centers (RDC's). The current RDC's are strategically located in North Carolina, Georgia, Indiana, Pennsylvania, Texas, California and Ohio. Each Lowe's store is served by one of these RDC's. The Company also operates nine smaller support facilities in order to distribute merchandise that requires special handling due to size or type of packaging, such as lumber, various imports and building materials. Approximately 50% of the merchandise purchased by the Company is shipped through its distribution facilities, while the remaining portion is shipped

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UL Warns Consumers and Retailers About Potentially Hazardous Halogen Work Lamps Made in China

NORTHBROOK, Ill., Nov. 6, 1998 -- The safety experts at Underwriters Laboratories Inc. (UL) are notifying consumers and retailers that the IDC Model 6110 portable halogen work lamp manufactured in China by International Development Corporation may present a serious fire or injury risk. Available in various retail outlets in the United States, this product does not comply with UL's safety requirements for such devices and carries an unauthorized holographic UL Mark.

Heat generated by the portable halogen work lamp may pose the risk of fire or injury if the lamp is tipped over in a face-down position and the 3-inch wire lens guard comes in contact with combustible materials. Models of the work lamp equipped with 4-inch wire lens guards comply with UL's safety requirements and are not involved in this notice. To determine the size of the wire lens guard, consumers should place a ruler perpendicular to the lens and measure the distance from the lens to the wire guard.

The potentially hazardous work lamp can be identified by the following markings: "E167574 Listed Work Light 4D60," "Made in China," and "Model 6110" on the product.

Although UL is unaware of any reported incidents of fire or injury, consumers are urged to stop using this product immediately and return it to the place of purchase.

To verify the validity of the UL Mark on products manufactured in China, consumers in the United States can either call UL's toll free number at: +1-888-UL4-MARK (+1-888-854-6275), Monday through Friday, between the hours of 8:00 a.m. and 4:30 p.m., Eastern time (EDT), or send an e-mail providing a description of the product to: listinfo@ul.com.

Underwriters Laboratories Inc. (UL) is an independent, not-for-profit product safety testing and certification organization that has tested products for public safety for more than a century. Each year, more than 14 billion UL Marks are applied to products worldwide. For a copy of this press release or to obtain further safety information, visit UL's Web site at www.ul.com.

Ser. No. 09/891,484
Response to Office Action
Exhibit A

Ser. No. 09/891,484
Response to Office Action
Exhibit B

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and * such as abc* or abcd* or abcde*)

NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs

Washington, DC 20207

FOR IMMEDIATE RELEASE

CONTACT: Kate Primo

January 2, 1996

(301) 504-0580 Ext. 1187

Release # 96-059

CPSC And Atlas Electric Corporation Announce Portable Halogen Work Light Recall

WASHINGTON, D.C. - In cooperation with the U.S. Consumer Product Safety Commission (CPSC), Atlas Electric Corporation of Burlington, N.C., is voluntarily recalling approximately 15,600 portable halogen indoor/outdoor work lights, models CLP150, PQ150WS, PQ500WS, ST500 and TST500. Water may leak into the lights, component temperatures may exceed set limits, or the junction box may break away from the main bulb housing to expose live wires. Models ST500 and TST 500 may also tip over easily. As a result these work lights may pose a serious shock, burn or fire hazard.

The models subject to this recall were sold in white boxes and were printed in part with the Atlas address, Atlas logo, and model number, and "Made in China." Model ST500, sold since February 1995, is a single work light mounted on a tripod. Model TST500, sold since June 1995, consists of two work lights mounted on a tripod. Model CLP150, sold since July 1995, is a clip-on work light. Models PQ150WS and PQ500WS, sold since February 1995, consists of a light mounted on a small frame with a handle on top. All of the lights involved in this recall are black and yellow. Electrical distributors and retailers sold these work lights nationwide for approximately \$11.95 to \$35.95 for the light mounted on a tripod.

Atlas Electric Corporation has received no reports of injury associated with the use of these products.

NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs

Washington, DC 20207

FOR IMMEDIATE RELEASE

CONTACT: Kate Premo
(301) 504-0580 Ext. 1187

May 30, 1996

Release # 96-135

CPSC and Quality Craft Announce Portable Halogen Work Light Recall

WASHINGTON, D.C. - In cooperation with the U.S. Consumer Product Safety Commission (CPSC), Quality Craft of Lilburn, Ga., is voluntarily recalling about 75,000 portable halogen outdoor work lights. Water could leak into the lights, presenting a serious shock hazard which could cause serious injury or a possible fatality. In addition, the internal wiring temperature may exceed limits that are safe, posing a fire hazard.

The yellow and black portable halogen work lights, measuring 12 inches high from the base to the top of the handle, have a black cord. A sticker on one side of the light casing is labeled, "UL Underwriters Laboratories E 127638." A warning label on the other side of the casing reads in part, "WARNING - LAMP IS HOT!!!" The lights are packaged in a white cardboard box with a photo of the lamp, labeled in part "500 WATT HALOGEN WORK LIGHT ... Powerful Outdoor Lighting ... Quality Craft ... QH-505 ..."

This recall affects only Quality Craft Halogen Work Lights with model number QH-505 and UL number E 127638. No other Quality Craft products are involved in this recall.

Menards, Inc. home center and building supply stores throughout the upper midwest sold the lights from November 1994 through July 1995 for \$9.95.

Consumers should stop using these portable halogen work lights immediately and return them to the nearest Menards for a full refund or replacement light. For more information, consumers should call Quality Craft at (800) 200-2199.

Quality Craft is not aware of any injuries associated with these work lights. This recall is being conducted to prevent the possibility of injury.

Send the link for this page to a friend! The U.S. Consumer Product Safety Commission protects the public from unreasonable risks of injury or death from 15,000 types of consumer products under the agency's jurisdiction. To report a dangerous product or a product-related injury, call CPSC's hotline at (800) 638-2772 or CPSC's teletypewriter at (800) 638-8270, or visit CPSC's web site at www.cpsc.gov/talk.html. Consumers can obtain this release and recall information at CPSC's web site at www.cpsc.gov.

Ser. No. 09/891,484
Response to Office Action
Exhibit C



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Industrial Halogen Lighting

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I recently saw an industrial strength halogen lighting stand with two lamps at Sam's club. For those of us on a budget (this set up costs only \$70), can this be used as a makeshift studio light? I figure that various coverings could be introduced to reduce the light output. Would I need any color correction filters for halogen lighting (ie, what's the temperature of this light?). The stand is adjustable and easy to move around, and wayyyy cheaper than even the most basic lighting setups from a photo retailer.

Thanks in advance for any input.

-- Nick Stroumbakis , February 09, 2001; 11:11 A.M. Eastern

Answers

Mind you, I'm not a photographer, just a geek, but I figure I'll offer my two cents.

1. Halogen lights put off a lot of heat. Really hot.
2. Halogen lights put off a great deal of UV light. Unless you bounce the light off an incident surface, or pass it through a thick pane of glass, expect to get sunburnt after a few minutes.

-- Jon McClintock , February 09, 2001; 01:42 P.M. Eastern

The color temperature of industrial halogen lighting should be very close to "photo" halogen's. The problem is the quality and control of the lights will be very poor. That is, the evenness of the light spread will be very poor and it will be very difficult to attach barn doors, scrims, etc.

If all you want to do is raise the overall light level by bouncing the light off a white ceiling or reflector or directing the light through heavy diffusion material (as in a light box), then it should be OK. If you want to use it as a poor-man's photo flood, you will be disappointed.

Joseph Perecman

-- Joseph Perecman , February 09, 2001; 02:36 P.M. Eastern

Nick,

I own two "work" lights that each give 500W of light. While they are EXTREMELY hot, since I do most of my work in black and white, I love them. My lights have thick UV coated glass and with foil I've made some primitive barndoors vignettes.

Normally I'll put my model against the backdrop, and just out of the frame of the camera I'll hang medium weight muslin from the ceiling. I aim the lights at the muslin (at a distance) and use them like giant softboxes. They give a nice smooth light.

The downsides: Heat, heat, heat. EXTREME caution is needed when moving these things while hot. There is some uneven lighting when using the bare bulbs, but the muslin curtain trick seems to make that go away. They also consume a lot of juice. I hope you have the switch style circuit breakers, otherwise load up on fuses.

The upsides: Cost. Cheap, easy to replace lamps. I've used them for worklights around the house when needed. With a little creative use of foamcore board and muslin, you can create some fantastic lighting. Get an 87 opaque filter and some IR film, and you have an awesome creative outlet. These things kick off tons of IR. I've also used them as hair lights with a White Lightning strobe and some foamcore as the main light.

yiasou

-- Peter Mavrikos , February 09, 2001; 05:17 P.M. Eastern

The Lowel Tota cost a bit more at \$110. The advantage of photographic lighting equipment is the accessories that comes with a lighting system. Photographic lighting isn't about light. Its about control. I can use a lot of different light modifiers and different mounting devices with the Tota. In time you might wish to upgrade and this industrial lighting will not make you no longer happy because you realize its limitations. I am not against hardware store lighting. However I found the beautiful clamp light to be more useful. This light is directional while the light you are looking at is a broad thrower. You want to be able to direct the light and not just have light. If it is truly halogen you can make some great work with Fuji NPL (warm negative film) and 64t II (neutral and beautiful slides). I know long exposure with people seems to be forever but I do produce sharp images with this low power lighting. People can stay still for a long time. however I shoot 4x5. I would recommend that you look into Lowel because it pro gear and not too expensive. Another company you may have missed is Smith Victor. They make really good clamp lights they can take the higher wattage bulbs, have a reflector and a handle. The beauty of tungsten pro lighting is the really good gear isn't that much more expensive than the lower end stuff.

-- David Payumo , February 09, 2001; 09:00 P.M. Eastern

The comment above on UV exposure is interesting and scary if true.

I get good results using tungsten Ektachrome (64T, 320T)under these type lights.

-- Charles Mackay , February 11, 2001; 01:03 A.M. Eastern

"Halogen" bulbs do put out ultra-violet radiation. That is why all halogen lamps sold these days (at least ones for direct illumination) have glass filters to block the UV. Common glasses do not pass UV, but "quartz" (fused silica) does. Be sure not to use these lamps without their protective filters. Other than that, the only other hazards are heat, brightness, and power consumption.

Photographers for years used hot lights and made excellent studio photographs. While studio strobes are much nicer, photographers on a budget can certainly use older technology for many purposes.

-- Allen Walker , February 11, 2001; 11:17 P.M. Eastern

I would like to contribute to the crowd. Stay away from Heat, heat, heat!!!!!!!!!!!!!! Also I will guess that since you're purchasing the lights from a store, the cost to filter a halogen (balancing to daylight) with no fixed reflector might be great enough to equal the purchase of a possibly more expensive source that would be easily filterable and easy to repair/replace. Lowell.

-- Howard Simmons , February 20, 2001; 07:00 P.M. Eastern

I would like to contribute to the crowd. Stay away from Heat, heat, heat!!!!!!!!!!!!!! Also I will guess that since you're purchasing the lights from a store, the cost to filter a halogen (balancing to daylight) with no fixed reflector might be great enough to equal the purchase of a possibly more expensive source that would be easily filterable and easy to repair/replace. Lowell.

-- Howard Simmons , February 20, 2001; 07:00 P.M. Eastern

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Inexpensive lighting for b/w studio

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work

Hi, Does anybody have suggestions on the most inexpensive method of lighting for a studio for b/w portrait work? Can I use regular halogen lamps, etc.? Are reflectors useful? Also, any background tips? Cost is the main issue for me. Thanks for your help.

Han Kim

-- Han Kim , November 18, 1998; 02:39 A.M. Eastern

Answers

For black and white, you can use any kind of lighting you wish, if it gives you acceptable shutter speed/aperture settings. For a low cost background, try bed sheets. Go to your local discount mart, and get the cheapest ones you can find. You can make a cheap background stand from pvc pipe, or just tack it to a wall. Reflectors are very useful.

-- Ron Shaw , November 18, 1998; 10:26 A.M. Eastern

Yes, halogens work fine. Reflectors and/or diffusers are critical to getting interesting light on your subjects, but remember halogens are quite hot and the potential for fire is not negligible. The heat also makes considerations of comfort for yourself and your models something to plan for.

Frank

-- Frank Kolwicz , November 18, 1998; 10:29 A.M. Eastern

Daylight through a window

-- Ellis Vener , November 18, 1998; 11:08 A.M. Eastern

Ordinary sockets with reflectors can be bought at the hardware store for less than \$5.00 US each. Rosco Co. sells diffusion material that is heat resistant/color neutral. Buy it at photo store or cine supply store --- \$5.00 plus per sheet. Hang these a short distance in front of lights for diffuse effect. Do not substitute paper or drape over lights; risk of fire.

I use 3200k tungsten bulbs; brighter and, with light filtration, color correct for tungsten film if you want to use that but tungsten bulbs cost \$6.00 or more each and only last a few hours. The 3200k bulbs last longer than the 3400k bulbs and are cheaper.

If you have a slide projector it will make an excellent spot light.

If you have a shoe mount flash, a lot of photo stores have a mount that allows you to put the shoe mount flash on an ordinary light stand. I have one made by Rowi that I use all the time. It has a sync cord so I can use my shoe mount flash on my older cameras without hot shoe and a screw thread in the bottom that fits a standard tripod thread (so you can mount it on top of your tripod or on top of a lightstand with a threaded top). I also bought for very little a PC cord extension about 15 feet long. It has a PC male on one end and a PC female on the other. With that I can place my flash on a stand across the room and plug it into my camera's PC socket.

-- s p , November 18, 1998; 11:47 A.M. Eastern

For backgrounds I go to either Hechingers or Home Depot and buy dropcloths for painting. Then use fabric dye (I forget the brand but they have it in any fabric store)to color it. If you stuff it into a bucket when you dye it (don't bunch it together tight because it'll look like tye-dye)the color will come out uneven naturally. Store it dry by just crumpling it so it's wrinkled or else you'll have unnatural looking straight creases in it when you hang it.

-- Okello Dunkley , November 18, 1998; 04:10 P.M. Eastern

A good set of windows, fome-cor for reflectors, some with aluminum foil taped to them for more contrast, and shoot away. Cost is zero for lighting and you will have to learn to work with the light very carefully and spend time with the models/clients to get the light working with them to greatest advantage. Otherwise, try the quartz/halogen shop lights from KMart/AutoZone type stores and reflectors. Cheap, a lot of light & safety glass in front of the quartz tube for protection if you knock them over.

-- Dan Smith , November 18, 1998; 10:34 P.M. Eastern

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The equipment reviewed on this site can be purchased at **ADORAMA**

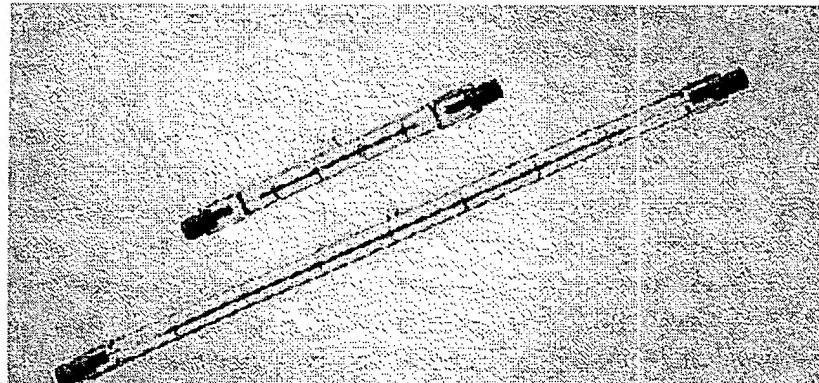
Utilize the Adorama Pro Lab through Mailers Prints \$11.95 and Slides \$5.49

This vendor supports photo.net by contributing a portion of your purchase to photo.net

Quartz and Full Voltage Halogen Lighting

Specifications in Short:

- Lamp Life Varies with application, up to 5,000 hours under lab conditions.
- Lumens Per Watt 20 to 25
- Color Temperature (^oKelvin) 3000
- Color Rendition Index 100



Characteristics

Quartz or quartz iodide is another form of lighting that has been around for a while but is starting to show up in home centers and similar stores for home use. Advertised as work lights they come in a few wattages in the 100-500W range. Another variation on this style is showing up as a direct replacement for standard incandescent lighting. In this case the name Halogen light bulbs is used. Both are really variations on the standard incandescent light bulb. The higher the temperature you operate an incandescent lamp at the more efficient it becomes. The problem is that at high temperatures, the metal that makes up the filament "boils off" for lack of a better description. As the metal boils off, the filament becomes weaker, and the life of the lamp decreases. In quartz or halogen type incandescent lighting they add halogen compounds to the atmosphere in the lamp and the effect is to slow down the "evaporation" of the metal in the filament and encourage re deposition of the metal on the filament. The result is that you get many of the good characteristics of the incandescent bulb. Instant on, no ballast, constant light output over the life of the bulb and added efficiency. As usual there is a downside as well. Cost for the lamps is significantly higher and they run **HOT HOT HOT**. The heat is so great that it is generally necessary to protect the user from the bulb by means of a secondary barrier. In the case of the work lights there is a glass cover over the exposed area of the fixture. In the case of the halogen bulbs there is a bulb within a bulb design. Even then they will both operate at very high temperatures and

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Exhibit F

this can be a drawback. If you place one of the work lights behind you and let the light shine down , over your shoulder, onto the work area, you may shortly find your neck starts burning like you had a severe case of sunburn. Fortunately you normally move before it becomes a real burn but it is a drawback. Even with the protective enclosure the case of the work lights becomes quite hot and care should be used if it is mounted where you might touch or brush up against it. It is unlikely to get hot enough to start a fire if it is mounted in open air even if it comes in contact with combustible materials. On the other hand, there can be a real danger if you mount it in a way where they are surrounded by material that prevents the heat from dissipating.

Another group of lamps that are showing up in halogen form are spot and flood lights such as the PAR class of lamps and smaller track light styles. In this case improved reflector designs give additional performance benefits. There are many specialized versions available developed for product accent lighting and other commercial purposes that may serve well in home applications as well.

Shop Tips

A critical aspect of the dealing with the quartz tubes that are used in the work lights is to **NEVER** touch the tube with your bare hands. The oils in the skin on your hands, if it gets on the tube, will effect heat dissipation of the lamp. The result will be very short lamp life. The replacement lamps will come in a sleeve, leave the lamp in there until used and then always use a **clean** paper or cloth to handle the bulb when installing.

As a point of general information the oils naturally present on your fingers and hands can cause problems in many electrical areas. A good example is watch batteries. You should never handle a watch battery with your bare hands. When you replace a watch battery use tweezers or some other tool to handle the battery because even a small amount of skin oil on the battery can greatly increase the contact resistance and dramatically reduce effective battery life.

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